

# AirRAC

## 1.00.1

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## 1 AirRAC Documentation

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- [Installation](#)
- [Linking with AirRAC](#)
- [Users Guide](#)
- [Tutorials](#)
- [Copyright and License](#)
- [Make a Difference](#)
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### 1.2 AirRAC at SourceForge

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## 1.3 AirRAC Development

- [Git Repository](#) (Subversion is deprecated)
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- [Boost](#) (C++ STL extensions)
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- [SOI](#) (C++ DB API)

## 1.5 Support AirRAC

## 1.6 About AirRAC

AirRAC is a C++ library of airline revenue accounting classes and functions, mainly targeting simulation purposes. [N](#)

AirRAC makes an extensive use of existing open-source libraries for increased functionality, speed and accuracy. In particular the [Boost](#) (C++ *Standard Extensions*) library is used.

The AirRAC library originates from the department of Operational Research and Innovation at [Amadeus](#), Sophia Antipolis, France. AirRAC is released under the terms of the [GNU Lesser General Public License](#) (LGPLv2.1) for you to enjoy.

AirRAC should work on [GNU/Linux](#), [Sun Solaris](#), Microsoft Windows (with [Cygwin](#), [MinGW/MSYS](#), or [Microsoft Visual C++ .NET](#)) and [Mac OS X](#) operating systems.

### Note:

(N) - The AirRAC library is **NOT** intended, in any way, to be used by airlines for production systems. If you want to report issue, bug or feature request, or if you just want to give feedback, have a look on the right-hand side of this page for the preferred reporting methods. In any case, please do not contact Amadeus directly for any matter related to AirRAC.

# 2 People

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- **Debian**: Emmanuel Bastien <ebastien@users.sourceforge.net> (N)

### Note:

(N) - **Amadeus** employees.

# 3 Coding Rules

In the following sections we describe the naming conventions which are used for files, classes, structures, local variables, and global variables.

## 3.1 Default Naming Rules for Variables

Variables names follow Java naming conventions. Examples:

- `lNumberOfPassengers`
- `lSeatAvailability`

## 3.2 Default Naming Rules for Functions

Function names follow Java naming conventions. Example:

- `int myFunctionName (const int& a, int b)`

## 3.3 Default Naming Rules for Classes and Structures

Each new word in a class or structure name should always start with a capital letter and the words should be separated with an under-score. Abbreviations are written with capital letters. Examples:

- `MyClassName`
- `MyStructName`

### 3.4 Default Naming Rules for Files

Files are named after the C++ class names.

Source files are named using `.cpp` suffix, whereas header files end with `.hpp` extension. Examples:

- `FlightDate.hpp`
- `SegmentDate.cpp`

### 3.5 Default Functionality of Classes

All classes that are configured by input parameters should include:

- default empty constructor
- one or more additional constructor(s) that takes input parameters and initializes the class instance
- setup function, preferably named `'setup'` or `'set_parameters'`

Explicit destructor functions are not required, unless they are needed. It shall not be possible to use any of the other member functions unless the class has been properly initiated with the input parameters.

## 4 Copyright and License

### 4.1 GNU LESSER GENERAL PUBLIC LICENSE

#### 4.1.1 Version 2.1, February 1999

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```
<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>
```

```
This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.
```

```
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Lesser General Public License for more details.
```

```
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License along with this library; if not, write to the Free Software
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```

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```
Yoyodyne, Inc., hereby disclaims all copyright interest in the
library 'Frob' (a library for tweaking knobs) written by James Random Hacker.
```

```
<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice
```

That's all there is to it!

Source

## 5 Documentation Rules

### 5.1 General Rules

All classes in AirRAC should be properly documented with Doxygen comments in include (.hpp) files. Source (.cpp) files should be documented according to a normal standard for well documented C++ code.

An example of how the interface of a class shall be documented in AirRAC is shown here:

```

/*!
 * \brief Brief description of MyClass here
 *
 * Detailed description of MyClass here. With example code if needed.
 */
class MyClass {
public:
    /*! Default constructor
    MyClass(void) { setup_done = false; }

    /*!
    * \brief Constructor that initializes the class with parameters
    *
    * Detailed description of the constructor here if needed
    *
    * \param[in] param1 Description of \a param1 here
    * \param[in] param2 Description of \a param2 here
    */
    MyClass(TYPE1 param1, TYPE2 param2) { setup(param1, param2); }

    /*!
    * \brief Setup function for MyClass
    *
    * Detailed description of the setup function here if needed
    *
    * \param[in] param1 Description of \a param1 here
    * \param[in] param2 Description of \a param2 here
    */
    void setup(TYPE1 param1, TYPE2 param2);

    /*!
    * \brief Brief description of memberFunction1
    *
    * Detailed description of memberFunction1 here if needed
    *
    * \param[in] param1 Description of \a param1 here
    * \param[in] param2 Description of \a param2 here
    * \param[in,out] param3 Description of \a param3 here
    * \return Description of the return value here
    */
    TYPE4 memberFunction1(TYPE1 param1, TYPE2 param2, TYPE3 &param3);

private:

    bool _setupDone;          /*!< Variable that checks if the class is properly
                               initialized with parameters */
    TYPE1 _privateVariable1; /*!< Short description of _privateVariable1 here
    TYPE2 _privateVariable2; /*!< Short description of _privateVariable2 here
};

```

### 5.2 File Header

All files should start with the following header, which include Doxygen's \file, \brief and \author tags, \$Date\$ and \$Revisions\$ CVS tags, and a common copyright note:

```

/!!
* \file
* \brief Brief description of the file here
* \author Names of the authors who contributed to this code
* \date Date
*
* Detailed description of the file here if needed.
*
* -----
*
* AirRAC - C++ Simulated Revenue Accounting (RAC) System Library
*
* Copyright (C) 2009-2011 (\see authors file for a list of contributors)
*
* \see copyright file for license information
*
* -----
*/

```

## 5.3 Grouping Various Parts

All functions must be added to a Doxygen group in order to appear in the documentation. The following code example defines the group 'my\_group':

```

/!!
* \defgroup my_group Brief description of the group here
*
* Detailed description of the group here
*/

```

The following example shows how to document the function `myFunction` and how to add it to the group `my_group`:

```

/!!
* \brief Brief description of myFunction here
* \ingroup my_group
*
* Detailed description of myFunction here
*
* \param[in] param1 Description of \a param1 here
* \param[in] param2 Description of \a param2 here
* \return Description of the return value here
*/
TYPE3 myFunction(TYPE1 param1, TYPE2 &param2);

```

## 6 Main features

A short list of the main features of AirRAC is given below sorted in different categories. Many more features and functions exist and for these we refer to the reference documentation.

### 6.1 Yield calculation

- Calculation of yields from statistics on tickets/coupons

### 6.2 Yield rule engine

- Yield rules: storage, engine, management

## 6.3 Yield retrieval

- Retrieval of yields for specific booking requests or product assesment

## 6.4 Other features

- CSV input file parsing
- Memory handling

# 7 Make a Difference

**Do not ask what AirRAC can do for you. Ask what you can do for AirRAC.**

You can help us to develop the AirRAC library. There are always a lot of things you can do:

- Start using AirRAC
- Tell your friends about AirRAC and help them to get started using it
- If you find a bug, report it to us. Without your help we can never hope to produce a bug free code.
- Help us to improve the documentation by providing information about documentation bugs
- Answer support requests in the AirRAC discussion forums on SourceForge. If you know the answer to a question, help others to overcome their AirRAC problems.
- Help us to improve our algorithms. If you know of a better way (e.g. that is faster or requires less memory) to implement some of our algorithms, then let us know.
- Help us to port AirRAC to new platforms. If you manage to compile AirRAC on a new platform, then tell us how you did it.
- Send us your code. If you have a good AirRAC compatible code, which you can release under the LGPL, and you think it should be included in AirRAC, then send it to us.
- Become an AirRAC developer. Send us an e-mail and tell what you can do for AirRAC.

# 8 Make a new release

## 8.1 Introduction

This document describes briefly the recommended procedure of releasing a new version of AirRAC using a Linux development machine and the SourceForge project site.

The following steps are required to make a release of the distribution package.

## 8.2 Initialisation

Clone locally the full [Git project](#):



```
cd ~
mkdir -p dev/sim
cd ~/dev/sim
git clone git://airrac.git.sourceforge.net/gitroot/airrac/airrac airracgit
cd airracgit
git checkout trunk
```

### 8.3 Branch creation

Create the branch, on your local clone, corresponding to the new release (say, 0.5.0):

```
cd ~/dev/sim/airracgit
git checkout trunk
git checkout -b 0.5.0
```

Update the version in the various build system files, replacing 99.99.99 by the correct version number:

```
vi CMakeLists.txt
vi autogen.sh
```

Update the version and add a change-log in the ChangeLog and in the RPM specification files:

```
vi ChangeLog
vi airrac.spec
```

### 8.4 Commit and publish the release branch

Commit the new release:

```
cd ~/dev/sim/airracgit
git add -A
git commit -m "[Release 0.5.0] Release of version 0.5.0."
git push
```

### 8.5 Update the change-log in the trunk as well

Update the change-log in the ChangeLog and RPM specification files:

```
cd ~/dev/sim/airracgit
git checkout trunk
vi ChangeLog
vi airrac.spec
```

Commit the change-logs and publish the trunk (main development branch):

```
git commit -m "[Doc] Integrated the change-log of the release 0.5.0."
git push
```

### 8.6 Create distribution packages

Create the distribution packages using the following command:

```
cd ~/dev/sim/airracgit
git checkout 0.5.0
rm -rf build && mkdir -p build
cd build
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/airrac-0.5.0 \
  -DCMAKE_BUILD_TYPE:String=Debug -DINSTALL_DOC:BOOL=ON ..
make check && make dist
```

This will configure, compile and check the package. The output packages will be named, for instance, `airrac-0.5.0.tar.gz` and `airrac-0.5.0.tar.bz2`.

## 8.7 Generation the RPM packages

Optionally, generate the RPM package (for instance, for [Fedora/RedHat](#)):

```
cd ~/dev/sim/airracgit
git checkout 0.5.0
rm -rf build && mkdir -p build
cd build
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/airrac-0.5.0 \
      -DCMAKE_BUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON ..
make dist
```

To perform this step, `rpm-build`, `rpmlint` and `rpmdevtools` have to be available on the system.

```
cp airrac.spec ~/dev/packages/SPECS \
  && cp airrac-0.5.0.tar.bz2 ~/dev/packages/SOURCES
cd ~/dev/packages/SPECS
rpmbuild -ba airrac.spec
rpmlint -i ../SPECS/airrac.spec ../SRPMS/airrac-0.5.0-1.fc15.src.rpm \
  ../RPMS/noarch/airrac-* ../RPMS/i686/airrac-*
```

## 8.8 Update distributed change log

Update the `NEWS` and `ChangeLog` files with appropriate information, including what has changed since the previous release. Then commit and push the changes into the [AirRAC's Git repository](#).

## 8.9 Create the binary package, including the documentation

Create the binary package, which includes HTML and PDF documentation, using the following command:

```
make package
```

The output binary package will be named, for instance, `airrac-0.5.0-Linux.tar.bz2`. That package contains both the HTML and PDF documentation. The binary package contains also the executables and shared libraries, as well as C++ header files, but all of those do not interest us for now.

## 8.10 Upload the files to SourceForge

Upload the distribution and documentation packages to the SourceForge server. Check [SourceForge help page on uploading software](#).

## 8.11 Upload the documentation to SourceForge

In order to update the Web site files, either:

- [synchronise them with rsync and SSH](#):

```
cd ~/dev/sim/airracgit
git checkout 0.5.0
rsync -aiv doc/html/ doc/latex/refman.pdf joe,airrac@web.sourceforge.net:htdocs/
```

where `-ai v` options mean:

- `-a`: archive/mirror mode; equals `-rlptgoD` (no `-H`, `-A`, `-X`)
  - `-v`: increase verbosity
  - `-i`: output a change-summary for all updates
  - Note the trailing slashes (/) at the end of both the source and target directories. It means that the content of the source directory (`doc/html`), rather than the directory itself, has to be copied into the content of the target directory.
- or use the [SourceForge Shell service](#).

## 8.12 Make a new post

- submit a new entry in the [SourceForge project-related news feed](#)
- make a new post on the [SourceForge hosted WordPress blog](#)
- and update, if necessary, [Trac tickets](#).

## 8.13 Send an email on the announcement mailing-list

Finally, you should send an announcement to [airrac-announce@lists.sourceforge.net](mailto:airrac-announce@lists.sourceforge.net) (see <https://lists.sourceforge.net/lists/listinfo/airrac-announce> for the archives)

# 9 Installation

## 9.1 Table of Contents

- [Fedora/RedHat Linux distributions](#)
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## 9.2 Fedora/RedHat Linux distributions

Note that on [Fedora/RedHat](#) Linux distributions, RPM packages are available and can be installed with your usual package manager. For instance:

```
yum -y install airrac-devel airrac-doc
```

RPM packages can also be available on the [SourceForge download site](#).

## 9.3 AirRAC Requirements

AirRAC should compile without errors or warnings on most GNU/Linux systems, on UNIX systems like Solaris SunOS, and on POSIX based environments for Microsoft Windows like Cygwin or MinGW with MSYS. It can be also built on Microsoft Windows NT/2000/XP/Vista/7 using Microsoft's Visual C++ .NET, but our support for this compiler is limited. For GNU/Linux, SunOS, Cygwin and MinGW we assume that you have at least the following GNU software installed on your computer:

- GNU Autotools:
  - [autoconf](#),
  - [automake](#),
  - [libtool](#),
  - [make](#), version 3.72.1 or later (check version with `'make --version'`)
- [GCC](#) - GNU C++ Compiler (g++), version 4.3.x or later (check version with `'gcc --version'`)
- [Boost](#) - C++ STL extensions, version 1.35 or later (check version with `'grep "define BOOST_LIB_VERSION" /usr/include/boost/version.hpp'`)
- [MySQL](#) - Database client libraries, version 5.0 or later (check version with `'mysql --version'`)
- [SOCT](#) - C++ database client library wrapper, version 3.0.0 or later (check version with `'soci-config --version'`)

Optionally, you might need a few additional programs: [Doxygen](#), [LaTeX](#), [Dvips](#) and [Ghostscript](#), to generate the HTML and PDF documentation.

We strongly recommend that you use recent stable releases of the GCC, if possible. We do not actively work on supporting older versions of the GCC, and they may therefore (without prior notice) become unsupported in future releases of AirRAC.

## 9.4 Basic Installation

Briefly, the shell commands `./cmake .. && make install` should configure, build and install this package. The following more-detailed instructions are generic; see the `'README'` file for instructions specific to this package. Some packages provide this `'INSTALL'` file but do not implement all of the features documented below. The lack of an optional feature in a given package is not necessarily a bug. More recommendations for GNU packages can be found in the info page corresponding to "Makefile Conventions: (standards)Makefile Conventions".

The `'cmake'` shell script attempts to guess correct values for various system-dependent variables used during compilation. It uses those values to create a `'Makefile'` in each directory of the package. It may also create one or more `'h'` files containing system-dependent definitions. Finally, it creates a `'CMakeCache.txt'` cache file that you can refer to in the future to recreate the current configuration, and files `'CMakeFiles'` containing compiler output (useful mainly for debugging `'cmake'`).

It can also use an optional file (typically called `'config.cache'` and enabled with `'--cache-file=config.cache'` or simply `'-C'`) that saves the results of its tests to speed up reconfiguring. Caching is disabled by default to prevent problems with accidental use of stale cache files.

If you need to do unusual things to compile the package, please try to figure out how `'configure'` could check whether to do them, and mail diffs or instructions to the address given in the `'README'` so they can be considered for the next release. If you are using the cache, and at some point `'config.cache'` contains results you don't want to keep, you may remove or edit it.

The file `'CMakeLists.txt'` is used to create the `'Makefile'` files.

The simplest way to compile this package is:

1. `'cd'` to the directory containing the package's source code and type `'./cmake .'` to configure the package for your system. Running `'cmake'` is generally fast. While running, it prints some messages telling which features it is checking for.
2. Type `'make'` to compile the package.
3. Optionally, type `'make check'` to run any self-tests that come with the package, generally using the just-built uninstalled binaries.
4. Type `'make install'` to install the programs and any data files and documentation. When installing into a prefix owned by root, it is recommended that the package be configured and built as a regular user, and only the `'make install'` phase executed with root privileges.
5. You can remove the program binaries and object files from the source code directory by typing `'make clean'`. To also remove the files that `'configure'` created (so you can compile the package for a different kind of computer), type `'make distclean'`. There is also a `'make maintainer-clean'` target, but that is intended mainly for the package's developers. If you use it, you may have to get all sorts of other programs in order to regenerate files that came with the distribution.
6. Often, you can also type `'make uninstall'` to remove the installed files again. In practice, not all packages have tested that uninstallation works correctly, even though it is required by the GNU Coding Standards.

## 9.5 Compilers and Options

Some systems require unusual options for compilation or linking that the `'cmake'` script does not know about. Run `'./cmake --help'` for details on some of the pertinent environment variables.

You can give `'cmake'` initial values for configuration parameters by setting variables in the command line or in the environment. Here is an example:

```
./cmake CC=c99 CFLAGS=-g LIBS=-lpthread
```

**See also:**

[Defining Variables](#) for more details.

## 9.6 Compiling For Multiple Architectures

You can compile the package for more than one kind of computer at the same time, by placing the object files for each architecture in their own directory. To do this, you can use GNU 'make'. 'cd' to the directory where you want the object files and executables to go and run the 'configure' script. 'configure' automatically checks for the source code in the directory that 'configure' is in and in '..'. This is known as a "VPATH" build.

With a non-GNU 'make', it is safer to compile the package for one architecture at a time in the source code directory. After you have installed the package for one architecture, use 'make distclean' before reconfiguring for another architecture.

On MacOS X 10.5 and later systems, you can create libraries and executables that work on multiple system types--known as "fat" or "universal" binaries--by specifying multiple '-arch' options to the compiler but only a single '-arch' option to the preprocessor. Like this:

```
./configure CC="gcc -arch i386 -arch x86_64 -arch ppc -arch ppc64" \
           CXX="g++ -arch i386 -arch x86_64 -arch ppc -arch ppc64" \
           CPP="gcc -E" CXXCPP="g++ -E"
```

This is not guaranteed to produce working output in all cases, you may have to build one architecture at a time and combine the results using the 'lipo' tool if you have problems.

## 9.7 Installation Names

By default, 'make install' installs the package's commands under '/usr/local/bin', include files under '/usr/local/include', etc. You can specify an installation prefix other than '/usr/local' by giving 'configure' the option '--prefix=PREFIX', where PREFIX must be an absolute file name.

You can specify separate installation prefixes for architecture-specific files and architecture-independent files. If you pass the option '--exec-prefix=PREFIX' to 'configure', the package uses PREFIX as the prefix for installing programs and libraries. Documentation and other data files still use the regular prefix.

In addition, if you use an unusual directory layout you can give options like '--bindir=DIR' to specify different values for particular kinds of files. Run 'configure --help' for a list of the directories you can set and what kinds of files go in them. In general, the default for these options is expressed in terms of '\${prefix}', so that specifying just '--prefix' will affect all of the other directory specifications that were not explicitly provided.

The most portable way to affect installation locations is to pass the correct locations to 'configure'; however, many packages provide one or both of the following shortcuts of passing variable assignments to the 'make install' command line to change installation locations without having to reconfigure or recompile.

The first method involves providing an override variable for each affected directory. For example, `'make install prefix=/alternate/directory'` will choose an alternate location for all directory configuration variables that were expressed in terms of `'${prefix}'`. Any directories that were specified during `'configure'`, but not in terms of `'${prefix}'`, must each be overridden at install time for the entire installation to be relocated. The approach of makefile variable overrides for each directory variable is required by the GNU Coding Standards, and ideally causes no recompilation. However, some platforms have known limitations with the semantics of shared libraries that end up requiring recompilation when using this method, particularly noticeable in packages that use GNU Libtool.

The second method involves providing the `'DESTDIR'` variable. For example, `'make install DESTDIR=/alternate/directory'` will prepend `'/alternate/directory'` before all installation names. The approach of `'DESTDIR'` overrides is not required by the GNU Coding Standards, and does not work on platforms that have drive letters. On the other hand, it does better at avoiding recompilation issues, and works well even when some directory options were not specified in terms of `'${prefix}'` at `'configure'` time.

## 9.8 Optional Features

If the package supports it, you can cause programs to be installed with an extra prefix or suffix on their names by giving `'cmake'` the option `'--program-prefix=PREFIX'` or `'--program-suffix=SUFFIX'`.

Some packages pay attention to `'--enable-FEATURE'` options to `'configure'`, where `FEATURE` indicates an optional part of the package. They may also pay attention to `'--with-PACKAGE'` options, where `PACKAGE` is something like `'gnu-as'` or `'x'` (for the X Window System). The `'README'` should mention any `'--enable-'` and `'--with-'` options that the package recognizes.

For packages that use the X Window System, `'configure'` can usually find the X include and library files automatically, but if it doesn't, you can use the `'configure'` options `'--x-includes=DIR'` and `'--x-libraries=DIR'` to specify their locations.

Some packages offer the ability to configure how verbose the execution of `'make'` will be. For these packages, running `'./configure --enable-silent-rules'` sets the default to minimal output, which can be overridden with `'make V=1'`; while running `'./configure --disable-silent-rules'` sets the default to verbose, which can be overridden with `'make V=0'`.

## 9.9 Particular systems

On HP-UX, the default C compiler is not ANSI C compatible. If GNU CC is not installed, it is recommended to use the following options in order to use an ANSI C compiler:

```
./configure CC="cc -Ae -D_XOPEN_SOURCE=500"
```

and if that doesn't work, install pre-built binaries of GCC for HP-UX. On OSF/1 a.k.a. Tru64, some versions of the default C compiler cannot parse its '<wchar.h>' header file. The option '-nodtk' can be used as a workaround. If GNU CC is not installed, it is therefore recommended to try

```
./configure CC="cc"
```

and if that doesn't work, try

```
./configure CC="cc -nodtk"
```

On Solaris, don't put '/usr/ucb' early in your 'PATH'. This directory contains several dysfunctional programs; working variants of these programs are available in '/usr/bin'. So, if you need '/usr/ucb' in your 'PATH', put it *after* '/usr/bin'.

On Haiku, software installed for all users goes in '/boot/common', not '/usr/local'. It is recommended to use the following options:

```
./cmake -DCMAKE_INSTALL_PREFIX=/boot/common
```

## 9.10 Specifying the System Type

There may be some features 'configure' cannot figure out automatically, but needs to determine by the type of machine the package will run on. Usually, assuming the package is built to be run on the *same* architectures, 'configure' can figure that out, but if it prints a message saying it cannot guess the machine type, give it the '--build=TYPE' option. TYPE can either be a short name for the system type, such as 'sun4', or a canonical name which has the form CPU-COMPANY-SYSTEM

where SYSTEM can have one of these forms:

- OS
- KERNEL-OS

See the file 'config.sub' for the possible values of each field. If 'config.sub' isn't included in this package, then this package doesn't need to know the machine type.

If you are *building* compiler tools for cross-compiling, you should use the option '--target=TYPE' to select the type of system they will produce code for.

If you want to *use* a cross compiler, that generates code for a platform different from the build platform, you should specify the "host" platform (i.e., that on which the generated programs will eventually be run) with '--host=TYPE'.



## 9.11 Sharing Defaults

If you want to set default values for 'configure' scripts to share, you can create a site shell script called 'config.site' that gives default values for variables like 'CC', 'cache\_file', and 'prefix'. 'configure' looks for 'PREFIX/share/config.site' if it exists, then 'PREFIX/etc/config.site' if it exists. Or, you can set the 'CONFIG\_SITE' environment variable to the location of the site script. A warning: not all 'configure' scripts look for a site script.

## 9.12 Defining Variables

Variables not defined in a site shell script can be set in the environment passed to 'configure'. However, some packages may run configure again during the build, and the customized values of these variables may be lost. In order to avoid this problem, you should set them in the 'configure' command line, using 'VAR=value'. For example:

```
./configure CC=/usr/local2/bin/gcc
```

causes the specified 'gcc' to be used as the C compiler (unless it is overridden in the site shell script).

Unfortunately, this technique does not work for 'CONFIG\_SHELL' due to an Autoconf bug. Until the bug is fixed you can use this workaround:

```
CONFIG_SHELL=/bin/bash /bin/bash ./configure CONFIG_SHELL=/bin/bash
```

## 9.13 'cmake' Invocation

'cmake' recognizes the following options to control how it operates.

- '--help', '-h' print a summary of all of the options to 'configure', and exit.
- '--help=short', '--help=recursive' print a summary of the options unique to this package's 'configure', and exit. The 'short' variant lists options used only in the top level, while the 'recursive' variant lists options also present in any nested packages.
- '--version', '-V' print the version of Autoconf used to generate the 'configure' script, and exit.
- '--cache-file=FILE' enable the cache: use and save the results of the tests in FILE, traditionally 'config.cache'. FILE defaults to '/dev/null' to disable caching.
- '--config-cache', '-C' alias for '--cache-file=config.cache'.
- '--quiet', '--silent', '-q' do not print messages saying which checks are being made. To suppress all normal output, redirect it to '/dev/null' (any error messages will still be shown).
- '--srcdir=DIR' look for the package's source code in directory DIR. Usually 'configure' can determine that directory automatically.

- '--prefix=DIR' use DIR as the installation prefix.

**See also:**

[Installation Names](#) for more details, including other options available for fine-tuning the installation locations.

- '--no-create', '-n' run the configure checks, but stop before creating any output files.

'cmake' also accepts some other, not widely useful, options. Run 'cmake --help' for more details.

The 'cmake' script produces an output like this:

```
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/airrac-0.5.0 \
-DLIB_SUFFIX=64 -DCMAKE_BUILD_TYPE:String=Debug -DINSTALL_DOC:BOOL=ON \
-DWITH_STDAIR_PREFIX=/home/user/dev/deliveries/stdair-stable ..
-- The C compiler identification is GNU
-- The CXX compiler identification is GNU
-- Check for working C compiler: /usr/lib64/ccache/gcc
-- Check for working C compiler: /usr/lib64/ccache/gcc -- works
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Check for working CXX compiler: /usr/lib64/ccache/c++
-- Check for working CXX compiler: /usr/lib64/ccache/c++ -- works
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Requires Git without specifying any version
-- Current Git revision name: fd0a80b436abd00facc362505699501b2e7acf58 trunk
-- Requires Boost-1.41
-- Boost version: 1.46.0
-- Found the following Boost libraries:
--   program_options
--   date_time
--   iostreams
--   serialization
--   filesystem
--   unit_test_framework
-- Found Boost version: 1.46.0
-- Found BoostWrapper: /usr/include (found suitable version "1.46.0", required is "1.41")
-- Requires MySQL without specifying any version
-- Using mysql-config: /usr/bin/mysql_config
-- Found MySQL: /usr/lib64/mysql/libmysqlclient.so (found version "5.5.14")
-- Found MySQL version: 5.5.14
-- Requires SOCI-3.0
-- Using soci-config: /usr/bin/soci-config
-- SOCI headers are buried
-- Found SOCI: /usr/lib64/libsoci_core.so (found suitable version "3.0.0", required is "3.0")
-- Found SOCIMySQL: /usr/lib64/libsoci_mysql.so (found suitable version "3.0.0", required is "3.0")
-- Found SOCI with MySQL back-end support version: 3.0.0
-- Requires StdAir-0.35
-- Found StdAir version: 0.36.2
-- Requires Doxygen without specifying any version
-- Found Doxygen: /usr/bin/doxygen
-- Found DoxygenWrapper: /usr/bin/doxygen (found version "1.7.4")
-- Found Doxygen version: 1.7.4
-- Had to set the linker language for 'airraclib' to CXX
-- Test 'YieldTestSuite' to be built with 'YieldTestSuite.cpp'
--
-- =====
-- -----
-- ---      Project Information      ---
-- -----
-- PROJECT_NAME ..... : airrac
-- PACKAGE_PRETTY_NAME ..... : AirRAC
```

```

-- PACKAGE ..... : airrac
-- PACKAGE_NAME ..... : AIRRAC
-- PACKAGE_VERSION ..... : 0.5.0
-- GENERIC_LIB_VERSION ..... : 0.5.0
-- GENERIC_LIB_SOVERSION ..... : 99.99
--
-- -----
-- --- Build Configuration ---
-- -----
-- Modules to build ..... : airrac
-- Libraries to build ..... : airraclib
-- Binaries to build ..... : airrac
-- Modules to test ..... : airrac
-- Binaries to test ..... : YieldTestSuitetst
--
-- * Module ..... : airrac
--   + Layers to be built ..... : .;basic;bom;factory;command;service
--   + Dependencies on other layers :
--   + Libraries to be built ..... : airraclib
--   + Executables to be built .... : airrac
--   + Test to be checked ..... : YieldTestSuitetst
--
-- BUILD_SHARED_LIBS ..... : ON
-- CMAKE_BUILD_TYPE ..... : Debug
-- CMAKE_MODULE_PATH ..... : /home/user/dev/sim/airrac/airracgithub/config/
-- CMAKE_INSTALL_PREFIX ..... : /home/user/dev/deliveries/airrac-0.5.0
--
-- * Doxygen:
--   - DOXYGEN_VERSION ..... : 1.7.4
--   - DOXYGEN_EXECUTABLE ..... : /usr/bin/doxygen
--   - DOXYGEN_DOT_EXECUTABLE ..... : /usr/bin/dot
--   - DOXYGEN_DOT_PATH ..... : /usr/bin
--
-- -----
-- --- Installation Configuration ---
-- -----
-- INSTALL_LIB_DIR ..... : /home/user/dev/deliveries/airrac-0.5.0/lib64
-- INSTALL_BIN_DIR ..... : /home/user/dev/deliveries/airrac-0.5.0/bin
-- INSTALL_INCLUDE_DIR ..... : /home/user/dev/deliveries/airrac-0.5.0/include
-- INSTALL_DATA_DIR ..... : /home/user/dev/deliveries/airrac-0.5.0/share
-- INSTALL_SAMPLE_DIR ..... : /home/user/dev/deliveries/airrac-0.5.0/share/airrac/samples
-- INSTALL_DOC ..... : ON
--
-- -----
-- --- Packaging Configuration ---
-- -----
-- CPACK_PACKAGE_CONTACT ..... : Denis Arnaud <denis_arnaud - at - users dot sourceforge dot net>
-- CPACK_PACKAGE_VENDOR ..... : Denis Arnaud
-- CPACK_PACKAGE_VERSION ..... : 0.5.0
-- CPACK_PACKAGE_DESCRIPTION_FILE . : /home/user/dev/sim/airrac/airracgithub/README
-- CPACK_RESOURCE_FILE_LICENSE .... : /home/user/dev/sim/airrac/airracgithub/COPYING
-- CPACK_GENERATOR ..... : TBZ2
-- CPACK_DEBIAN_PACKAGE_DEPENDS ... :
-- CPACK_SOURCE_GENERATOR ..... : TBZ2;TGZ
-- CPACK_SOURCE_PACKAGE_FILE_NAME . : airrac-0.5.0
--
-- -----
-- --- External libraries ---
-- -----
--
-- * Boost:
--   - Boost_VERSION ..... : 104600
--   - Boost_LIB_VERSION ..... : 1_46
--   - Boost_HUMAN_VERSION ..... : 1.46.0
--   - Boost_INCLUDE_DIRS ..... : /usr/include
--   - Boost required components .. : program_options;date_time;iostreams;serialization;filesystem;unit_te
--   - Boost required libraries ... : optimized;/usr/lib64/libboost_iostreams-mt.so;debug;/usr/lib64/libbo

```

```
--
-- * MySQL:
--   - MYSQL_VERSION ..... : 5.5.14
--   - MYSQL_INCLUDE_DIR ..... : /usr/include/mysql
--   - MYSQL_LIBRARIES ..... : /usr/lib64/mysql/libmysqlclient.so
--
-- * SOCI:
--   - SOCI_VERSION ..... : 3.0.0
--   - SOCI_INCLUDE_DIR ..... : /usr/include/soci
--   - SOCI_MYSQL_INCLUDE_DIR ..... : /usr/include/soci
--   - SOCI_LIBRARIES ..... : /usr/lib64/libsoci_core.so
--   - SOCI_MYSQL_LIBRARIES ..... : /usr/lib64/libsoci_mysql.so
--
-- * StdAir:
--   - STDAIR_VERSION ..... : 0.36.2
--   - STDAIR_BINARY_DIRS ..... : /home/user/dev/deliveries/stdair-0.36.2/bin
--   - STDAIR_EXECUTABLES ..... : stdair
--   - STDAIR_LIBRARY_DIRS ..... : /home/user/dev/deliveries/stdair-0.36.2/lib64
--   - STDAIR_LIBRARIES ..... : stdairlib;stdairuicllib
--   - STDAIR_INCLUDE_DIRS ..... : /home/user/dev/deliveries/stdair-0.36.2/include
--   - STDAIR_SAMPLE_DIR ..... : /home/user/dev/deliveries/stdair-0.36.2/share/stdair/samples
--
-- Change a value with: cmake -D<Variable>=<Value>
-- =====
--
-- Configuring done
-- Generating done
-- Build files have been written to: /home/user/dev/sim/airrac/airracgithub/build
```

It is recommended that you check if your library has been compiled and linked properly and works as expected. To do so, you should execute the testing process 'make check'. As a result, you should obtain a similar report:

```
[ 0%] Built target hdr_cfg_airrac
[ 90%] Built target airraclib
[100%] Built target YieldTestSuitetst
Test project /home/user/dev/sim/airrac/airracgithub/build/test/airrac
  Start 1: YieldTestSuitetst
1/1 Test #1: YieldTestSuitetst ..... Passed    0.03 sec

100% tests passed, 0 tests failed out of 1

Total Test time (real) = 0.23 sec
[100%] Built target check_airractst
[100%] Built target check
```

Check if all the executed tests PASSED. If not, please contact us by filling a [bug-report](#).

Finally, you should install the compiled and linked library, include files and (optionally) HTML and PDF documentation by typing:

```
make install
```

Depending on the PREFIX settings during configuration, you might need the root (administrator) access to perform this step.

Eventually, you might invoke the following command

```
make clean
```

to remove all files created during compilation process, or even

```
cd ~/dev/sim/airracgit
rm -rf build && mkdir build
cd build
```

to remove everything.

## 10 Linking with AirRAC

### 10.1 Table of Contents

- [Introduction](#)
- [Using the pkg-config command](#)
- [Using the airrac-config script](#)
- [M4 macro for the GNU Autotools](#)
- [Using AirRAC with dynamic linking](#)

### 10.2 Introduction

There are two convenient methods of linking your programs with the AirRAC library. The first one employs the 'pkg-config' command (see <http://pkgconfig.freedesktop.org/>), whereas the second one uses 'airrac-config' script. These methods are shortly described below.

### 10.3 Using the pkg-config command

'pkg-config' is a helper tool used when compiling applications and libraries. It helps you insert the correct compiler and linker options. The syntax of the 'pkg-config' is as follows:

```
pkg-config <options> <library_name>
```

For instance, assuming that you need to compile an AirRAC based program 'my\_prog.cpp', you should use the following command:

```
g++ `pkg-config --cflags airrac` -o my_prog my_prog.cpp `pkg-config --libs airrac`
```

For more information see the 'pkg-config' man pages.

### 10.4 Using the airrac-config script

AirRAC provides a shell script called 'airrac-config', which is installed by default in '\$prefix/bin' ('/usr/local/bin') directory. It can be used to simplify compilation and linking of AirRAC based programs. The usage of this script is quite similar to the usage of the 'pkg-config' command.

Assuming that you need to compile the program 'my\_prog.cpp' you can now do that with the following command:

```
g++ `airrac-config --cflags` -o my_prog_opt my_prog.cpp `airrac-config --libs`
```

A list of `'airrac-config'` options can be obtained by typing:

```
airrac-config --help
```

If the `'airrac-config'` command is not found by your shell, you should add its location `'$prefix/bin'` to the `PATH` environment variable, e.g.:

```
export PATH=/usr/local/bin:$PATH
```

## 10.5 M4 macro for the GNU Autotools

A M4 macro file is delivered with AirRAC, namely `'airrac.m4'`, which can be found in, e.g., `'/usr/share/aclocal'`. When used by a `'configure'` script, thanks to the `'AM_PATH_AirRAC'` macro (specified in the M4 macro file), the following Makefile variables are then defined:

- `'AirRAC_VERSION'` (e.g., defined to 0.23.0)
- `'AirRAC_CFLAGS'` (e.g., defined to `'-I${prefix}/include'`)
- `'AirRAC_LIBS'` (e.g., defined to `'-L${prefix}/lib -lairrac'`)

## 10.6 Using AirRAC with dynamic linking

When using static linking some of the library routines in AirRAC are copied into your executable program. This can lead to unnecessary large executables. To avoid having too large executable files you may use dynamic linking instead. Dynamic linking means that the actual linking is performed when the program is executed. This requires that the system is able to locate the shared AirRAC library file during your program execution. If you install the AirRAC library using a non-standard prefix, the `'LD_LIBRARY_PATH'` environment variable might be used to inform the linker of the dynamic library location, e.g.:

```
export LD_LIBRARY_PATH=<AirRAC installation prefix>/lib:$LD_LIBRARY_PATH
```

# 11 Test Rules

This section describes how the functionality of the AirRAC library should be verified. In the `'test/airrac'` subdirectory, test source files are provided. All functionality should be tested using these test source files.

## 11.1 The Test Source Files

Each new AirRAC module/class should be accompanied with a test source file. The test source file is an implementation in C++ that tests the functionality of a function/class or a group of functions/classes called test suites. The test source file should test relevant parameter settings and input/output relations to guarantee correct functionality of the corresponding classes/functions. The test source files should be maintained using version control and updated whenever new functionality is added to the AirRAC library.

The test source file should print relevant data to a standard output that can be used to verify the functionality. All relevant parameter settings should be tested.

The test source file should be placed in the `'test/airrac'` subdirectory and should have a name ending with `'TestSuite.cpp'`.

## 11.2 The Reference File

Consider a test source file named `'YieldTestSuite.cpp'`. A reference file named `'YieldTestSuite.ref'` should accompany the test source file. The reference file contains a reference printout of the standard output generated when running the test program. The reference file should be maintained using version control and updated according to the test source file.

## 11.3 Testing AirRAC Library

One can compile and execute all test programs from the `'test/airrac'` sub-directory by typing:

```
% make check
```

after successful compilation of the AirRAC library.

# 12 Users Guide

## 12.1 Table of Contents

- [Introduction](#)
- [Get Started](#)
  - [Get the AirRAC library](#)
  - [Build the AirRAC project](#)
  - [Build and Run the Tests](#)
  - [Install the AirRAC Project \(Binaries, Documentation\)](#)
- [Exploring the Predefined BOM Tree](#)
  - [Yield Rule Engine BOM Tree](#)
- [Extending the BOM Tree](#)

## 12.2 Introduction

The AirRAC library contains classes for yield rule management. This document does not cover all the aspects of the AirRAC library. It does however explain the most important things you need to know in order to start using AirRAC.

## 12.3 Get Started

### 12.3.1 Get the AirRAC library

### 12.3.2 Build the AirRAC project

To run the configuration script the first time, go to the top directory (where the AirRAC package has been un-packed), and issue either of the following two commands, depending on whether the AirRAC project has been checked out from the Subversion repository or downloaded as a tar-ball package from the Sourceforge Web site:

- `./autogen.sh`
- `./configure`

### 12.3.3 Build and Run the Tests

### 12.3.4 Install the AirRAC Project (Binaries, Documentation)

## 12.4 Exploring the Predefined BOM Tree

AirRAC predefines a BOM (Business Object Model) tree specific to the airline IT arena.

### 12.4.1 Yield Rule Engine BOM Tree

- `AIRRAC::YieldRuleStruct`

## 12.5 Extending the BOM Tree

# 13 Supported Systems

## 13.1 Table of Contents

- [Introduction](#)
- [AirRAC 0.1.x](#)
  - [Linux Systems](#)
    - \* [Fedora Core 4 with ATLAS](#)
    - \* [Gentoo Linux with ACML](#)
    - \* [Gentoo Linux with ATLAS](#)
    - \* [Gentoo Linux with MKL](#)
    - \* [Gentoo Linux with NetLib's BLAS and LAPACK](#)
    - \* [Red Hat Enterprise Linux with AirRAC External](#)
    - \* [SUSE Linux 10.0 with NetLib's BLAS and LAPACK](#)
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  - [Windows Systems](#)
    - \* [Microsoft Windows XP with Cygwin](#)
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    - \* [Microsoft Windows XP with MinGW, MSYS and ACML](#)
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    - \* [Microsoft Windows XP with MS Visual C++ and Intel MKL](#)
  - [Unix Systems](#)
    - \* [SunOS 5.9 with AirRAC External](#)
- [AirRAC 3.9.1](#)
- [AirRAC 3.9.0](#)
- [AirRAC 3.8.1](#)



## 13.2 Introduction

This page is intended to provide a list of AirRAC supported systems, i.e. the systems on which configuration, installation and testing process of the AirRAC library has been successful. Results are grouped based on minor release number. Therefore, only the latest tests for bug-fix releases are included. Besides, the information on this page is divided into sections dependent on the operating system.

Where necessary, some extra information is given for each tested configuration, e.g. external libraries installed, configuration commands used, etc.

If you manage to compile, install and test the AirRAC library on a system not mentioned below, please let us know, so we could update this database.

## 13.3 AirRAC 0.1.x

### 13.3.1 Linux Systems

#### 13.3.1.1 Fedora Core 4 with ATLAS

- **Platform:** Intel Pentium 4
- **Operating System:** Fedora Core 4 (x86)
- **Compiler:** g++ (GCC) 4.0.2 20051125
- **AirRAC release:** 0.1.0
- **External Libraries:** From FC4 distribution:
  - `fftw3.i386-3.0.1-3`
  - `fftw3-devel.i386-3.0.1-3`
  - `atlas-sse2.i386-3.6.0-8.fc4`
  - `atlas-sse2-devel.i386-3.6.0-8.fc4`
  - `blas.i386-3.0-35.fc4`
  - `lapack.i386-3.0-35.fc4`
- **Tests Status:** All tests PASSED
- **Comments:** AirRAC configured with:

```
% CXXFLAGS="-O3 -pipe -march=pentium4" ./configure
```
- **Date:** March 7, 2006
- **Tester:** Tony Ottosson

#### 13.3.1.2 Gentoo Linux with ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Gentoo Linux 2006.0 (x86 arch)
- **Compiler(s):** g++ (GCC) 3.4.5
- **AirRAC release:** 0.1.1

- **External Libraries:** Compiled and installed from portage tree:

- sci-libs/acml-3.0.0

- **Tests Status:** All tests PASSED

- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% eselect blas set ACML
% eselect lapack set ACML
```

AirRAC configured with:

```
% export CPPFLAGS="-I/usr/include/acml"
% ./configure --with-blas="-lblas"
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 13.3.1.3 Gentoo Linux with ATLAS

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86)
- **Compiler:** g++ (GCC) 3.4.5
- **AirRAC release:** 0.1.1
- **External Libraries:** Compiled and installed from portage tree:

- sci-libs/fftw-3.1
  - sci-libs/blas-atlas-3.6.0-r1
  - sci-libs/lapack-atlas-3.6.0

- **Tests Status:** All tests PASSED
- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% eselect blas set ATLAS
% eselect lapack set ATLAS
```

AirRAC configured with:

```
% ./configure --with-blas="-lblas"
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 13.3.1.4 Gentoo Linux with MKL

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86 arch)
- **Compiler:** g++ (GCC) 3.4.5
- **AirRAC release:** 0.1.0
- **External Libraries:** Intel Math Kernel Library (MKL) 8.0.1 installed manually in the following directory: `/opt/intel/mkl/8.0.1`
- **Tests Status:** All tests PASSED
- **Comments:** AirRAC configured using the following commands:

```
% export LDFLAGS="-L/opt/intel/mkl/8.0.1/lib/32"
% export CPPFLAGS="-I/opt/intel/mkl/8.0.1/include"
% ./configure
```

- **Date:** February 28, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 13.3.1.5 Gentoo Linux with NetLib's BLAS and LAPACK

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86)
- **Compiler:** g++ (GCC) 3.4.5
- **AirRAC release:** 0.1.1
- **External Libraries:** Compiled and installed from portage tree:
  - `sci-libs/fftw-3.1`
  - `sci-libs/blas-reference-19940131-r2`
  - `sci-libs/cblas-reference-20030223`
  - `sci-libs/lapack-reference-3.0-r2`
- **Tests Status:** All tests PASSED
- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% blas-config reference
% lapack-config reference
```

AirRAC configured with:

```
% ./configure --with-blas="-lblas"
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 13.3.1.6 Red Hat Enterprise Linux with AirRAC External

- **Platform:** Intel Pentium 4
- **Operating System:** Red Hat Enterprise Linux AS release 4 (Nahant Update 2)
- **Compiler:** g++ (GCC) 3.4.4 20050721 (Red Hat 3.4.4-2)
- **AirRAC release:** 0.1.0
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from AirRAC External 2.1.1 package
- **Tests Status:** All tests PASSED
- **Date:** March 7, 2006
- **Tester:** Erik G. Larsson

#### 13.3.1.7 SUSE Linux 10.0 with NetLib's BLAS and LAPACK

- **Platform:** Intel Pentium 4 CPU 3.20GHz (64-bit)
- **Operating System:** SUSE Linux 10.0 (x86\_64)
- **Compiler(s):** g++ (GCC) 4.0.2
- **AirRAC release:** 0.1.0
- **External Libraries:** BLAS, LAPACK and FFTW libraries installed from OpenSuse 10.0 RPM repository:
  - blas-3.0-926
  - lapack-3.0-926
  - fftw3-3.0.1-114
  - fftw3-threads-3.0.1-114
  - fftw3-devel-3.0.1-114
- **Tests Status:** All tests PASSED
- **Comments:** AirRAC configured with:

```
% export CXXFLAGS="-m64 -march=nocona -O3 -pipe"
% ./configure --with-lapack="/usr/lib64/liblapack.so.3"
```
- **Date:** March 1, 2006
- **Tester:** Adam Piatyszek (ediap)

### 13.3.1.8 SUSE Linux 10.0 with MKL

- **Platform:** Intel Pentium 4 CPU 3.20GHz (64-bit)
- **Operating System:** SUSE Linux 10.0 (x86\_64)
- **Compiler(s):** g++ (GCC) 4.0.2
- **AirRAC release:** 0.1.0
- **External Libraries:** Intel Math Kernel Library (MKL) 8.0.1 installed manually in the following directory: /opt/intel/mkl/8.0.1
- **Tests Status:** All tests PASSED
- **Comments:** AirRAC configured with:

```
% export CXXFLAGS="-m64 -march=nocona -O3 -pipe"
% export LDFLAGS="-L/opt/intel/mkl/8.0.1/lib/em64t"
% export CPPFLAGS="-I/opt/intel/mkl/8.0.1/include"
% ./configure
```
- **Date:** March 1, 2006
- **Tester:** Adam Piatyszek (ediap)

### 13.3.2 Windows Systems

#### 13.3.2.1 Microsoft Windows XP with Cygwin

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4
- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)
- **AirRAC release:** 0.1.1
- **External Libraries:** Installed from Cygwin's repository:
  - fftw-3.0.1-2
  - fftw-dev-3.0.1-1
  - lapack-3.0-4
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. AirRAC configured with:

```
% ./configure
```
- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

### 13.3.2.2 Microsoft Windows XP with Cygwin and ATLAS

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4
- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)
- **AirRAC release:** 0.1.1
- **External Libraries:** Installed from Cygwin's repository:

```
- fftw-3.0.1-2
- fftw-dev-3.0.1-1
```

ATLAS BLAS and LAPACK libraries from AirRAC External 2.1.1 package configured using:

```
% ./configure --enable-atlas --disable-fftw
```

- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. AirRAC configured with:

```
% export LDFLAGS="-L/usr/local/lib"
% ./configure
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

### 13.3.2.3 Microsoft Windows XP with Cygwin and ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4
- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)
- **AirRAC release:** 0.1.2
- **External Libraries:** ACML version 3.1.0 (acml3.1.0-32-win32-g77.exe) installed into a default directory, i.e. "c:\Program Files\AMD\acml3.1.0"
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. AirRAC configured with:

```
% export LDFLAGS="-L/cygdrive/c/Progra~1/AMD/acml3.1.0/gnu32/lib"
% export CPPFLAGS="-I/cygdrive/c/Progra~1/AMD/acml3.1.0/gnu32/include"
% ./configure --enable-debug
```

- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 13.3.2.4 Microsoft Windows XP with MinGW, MSYS and ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, MinGW 5.0.2, MSYS 1.0.10
- **Compiler(s):** g++ (GCC) 3.4.4 (mingw special)
- **AirRAC release:** 0.1.2
- **External Libraries:** ACML version 3.1.0 (acml3.1.0-32-win32-g77.exe) installed into a default directory, i.e. "c:\Program Files\AMD\acml3.1.0"
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. AirRAC configured with:

```
% export LDFLAGS="-L/c/Progra~1/AMD/acml3.1.0/gnu32/lib"
% export CPPFLAGS="-I/c/Progra~1/AMD/acml3.1.0/gnu32/include"
% ./configure --enable-debug
```

- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 13.3.2.5 Microsoft Windows XP with MinGW, MSYS and AirRAC External

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, MinGW 5.0.2, MSYS 1.0.10
- **Compiler(s):** g++ (GCC) 3.4.4 (mingw special)
- **AirRAC release:** 0.1.5
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from AirRAC External 2.2.0 package
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. AirRAC configured with:

```
% export LDFLAGS="-L/usr/local/lib"
% export CPPFLAGS="-I/usr/local/include"
% export CXXFLAGS="-Wall -O3 -march=athlon-tbird -pipe"
% ./configure --disable-html-doc
```

- **Date:** August 11, 2006
- **Tester:** Adam Piatyszek (ediap)

### 13.3.2.6 Microsoft Windows XP with MS Visual C++ and Intel MKL

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2
- **Compiler(s):** Microsoft Visual C++ 2005 .NET
- **AirRAC release:** 0.1.5
- **External Libraries:** Intel Math Kernel Library (MKL) 8.1 installed manually in the following directory: "C:\Program Files\Intel\MKL\8.1"
- **Tests Status:** Not fully tested. Some AirRAC based programs compiled and run with success.
- **Comments:** Only static library can be built. AirRAC built by opening the "win32\airrac.vcproj" project file in MSVC++ and executing "Build -> Build Solution" command from menu.
- **Date:** August 11, 2006
- **Tester:** Adam Piatyszek (ediap)

### 13.3.3 Unix Systems

#### 13.3.3.1 SunOS 5.9 with AirRAC External

- **Platform:** SUNW, Sun-Blade-100 (SPARC)
- **Operating System:** SunOS 5.9 Generic\_112233-10
- **Compiler(s):** g++ (GCC) 3.4.5
- **AirRAC release:** 0.1.2
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from AirRAC External 2.1.1 package. The following configuration command has been used:

```
% export CFLAGS="-mcpu=ultrasparc -O2 -pipe -funroll-all-loops"  
% ./configure
```

- **Tests Status:** All tests PASSED
- **Comments:** AirRAC configured with:

```
% export LDFLAGS="-L/usr/local/lib"  
% export CPPFLAGS="-I/usr/local/include"  
% export CXXFLAGS="-mcpu=ultrasparc -O2 -pipe"  
% ./configure --enable-debug
```

- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)



## 14 AirRAC Supported Systems (Previous Releases)

### 14.1 AirRAC 3.9.1

### 14.2 AirRAC 3.9.0

### 14.3 AirRAC 3.8.1

## 15 Tutorials

### 15.1 Table of Contents

- [Introduction](#)
  - [Preparing the AirRAC Project for Development](#)
- [Build a Predefined BOM Tree](#)
  - [Instantiate the BOM Root Object](#)
  - [Instantiate the \(Airline\) Inventory Object](#)
  - [Link the Inventory Object with the BOM Root](#)
  - [Build Another Airline Inventory](#)
  - [Dump The BOM Tree Content](#)
  - [Result of the Tutorial Program](#)

### 15.2 Introduction

This page contains some tutorial examples that will help you getting started using AirRAC. Most examples show how to construct some simple business objects, i.e., instances of the so-named Business Object Model (BOM).

#### 15.2.1 Preparing the AirRAC Project for Development

The source code for these examples can be found in the `batches` and `test/airrac` directories. They are compiled along with the rest of the `AirRAC` project. See the User Guide ([Users Guide](#)) for more details on how to build the `AirRAC` project.

### 15.3 Build a Predefined BOM Tree

A few steps:

- [Instantiate the BOM Root Object](#)
- [Instantiate the \(Airline\) Inventory Object](#)
- [Link the Inventory Object with the BOM Root](#)

### 15.3.1 Instantiate the BOM Root Object

First, a BOM root object (i.e., a root for all the classes in the project) is instantiated by the `airrac::AIRRAC_ServiceContext` context object, when the `airrac::AIRRAC_Service` is itself instantiated. The corresponding AirRAC type (class) is `airrac::BomRoot`.

In the following sample, that object is named `ioBomRoot`, and is given as input/output parameter of the `airrac::CmdBomManager::buildSampleBom()` method:

### 15.3.2 Instantiate the (Airline) Inventory Object

An airline inventory object can then be instantiated. Let us give it the "BA" airline code (corresponding to **British Airways**) as the object key. That is, an object (let us name it `lBAKey`) of type (class) `airrac::InventoryKey` has first to be instantiated.

Thanks to that key, an airline inventory object, i.e. of type (class) `airrac::Inventory`, can be instantiated. Let us name that airline inventory object `lBAInv`.

### 15.3.3 Link the Inventory Object with the BOM Root

Then, both objects have to be linked: the airline inventory object (`airrac::Inventory`) has to be linked with the root of the BOM tree (`airrac::BomRoot`). That operation is as simple as using the `airrac::FacBomManager::addToListAndMap()` method:

### 15.3.4 Build Another Airline Inventory

Another airline inventory object, corresponding to the Air France (**Air France**) company, is instantiated the same way:

See the corresponding full program (`cmd_bom_manager_cpp`) for more details.

### 15.3.5 Dump The BOM Tree Content

From the `BomRoot` (of type `airrac::BomRoot`) object instance, the list of airline inventories (of type `airrac::Inventory`) can then be retrieved...

... and browsed:

See the corresponding full program (`bom_display_cpp`) for more details.

### 15.3.6 Result of the Tutorial Program

When the `airrac.cpp` program is run (with the `-b` option), the output should look like:

```
[D]/home/user/dev/sim/airrac/airracgithub/airrac/batches/airrac.cpp:184: Welcome
to AirRAC
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:49
3: Parsing yield input file: /home/user/dev/deliveries/stdair-0.36.2/share/stdair
/samples/yieldstore01.csv
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 1, SIN-BKK (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 200 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 2, SIN-HND (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 200 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 3, SIN-NCE (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 1200 EUR, SQ / Y - AF / YLMN
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 4, SIN-BKK (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 300 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 5, SIN-HND (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 300 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 6, SIN-NCE (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 1500 EUR, SQ / Y - AF / YLMN
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:54
1: Parsing of yield input file: /home/user/dev/deliveries/stdair-0.36.2/share/std
air/samples/yieldstore01.csv succeeded
[D]/home/user/dev/sim/airrac/airracgithub/airrac/batches/airrac.cpp:205: BOM tree
:
=====
BomRoot:  -- ROOT  --
=====
+++++
AirportPair: SIN, BKK
+++++
-----
DatePeriod: [2010-Jan-15/2011-Jan-01]
-----
*****
PosChannel: ALL, DC
*****
-----
TimePeriod: 00:00:00-23:59:00
-----
-----
Fare/yield-Features: OW -- Y
-----
-----
AirlineClassList: SQ Y
-----
-----
Fare/yield-Features: RT -- Y
-----
-----
AirlineClassList: SQ Y
-----
+++++
AirportPair: SIN, HND
+++++
-----
DatePeriod: [2010-Jan-15/2011-Jan-01]
-----
*****
PosChannel: ALL, DC
```

```

*****
-----
TimePeriod: 00:00:00-23:59:00
-----
Fare/yield-Features: OW -- Y
-----
AirlineClassList: SQ Y
-----
Fare/yield-Features: RT -- Y
-----
AirlineClassList: SQ Y
-----
+++++
AirportPair: SIN, NCE
+++++
-----
DatePeriod: [2010-Jan-15/2011-Jan-01]
-----
*****
PosChannel: ALL, DC
*****
-----
TimePeriod: 00:00:00-23:59:00
-----
Fare/yield-Features: OW -- Y
-----
AirlineClassList: SQ Y, AF YLMN
-----
Fare/yield-Features: RT -- Y
-----
AirlineClassList: SQ Y, AF YLMN
-----

[D]/home/user/dev/sim/airrac/airracgithub/airrac/batches/airrac.cpp:210: Travel s
olutions:
[0] [0] BA, 9, 2011-06-10, LHR, SYD, 21:45 --- Q, 900, 1 1 1 --- [0] Q:8

```

See the corresponding full program (batch\_airrac\_cpp) for more details.

## 16 Command-Line Test to Demonstrate How To Test the AirRAC Project

```

*/
// //////////////////////////////////////
// Import section
// //////////////////////////////////////
// STL
#include <sstream>
#include <fstream>
#include <string>
// Boost Unit Test Framework (UTF)
#define BOOST_TEST_DYN_LINK
#define BOOST_TEST_MAIN
#define BOOST_TEST_MODULE YieldTestSuite

```

```

#include <boost/test/unit_test.hpp>
// StdAir
#include <stdair/basic/BasLogParams.hpp>
#include <stdair/basic/BasDBParams.hpp>
#include <stdair/basic/BasFileMgr.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/service/Logger.hpp>
// Airrac
#include <airrac/AIRRAC_Service.hpp>
#include <airrac/config/airrac-paths.hpp>

namespace boost_utf = boost::unit_test;

// (Boost) Unit Test XML Report
std::ofstream utfReportStream ("YieldTestSuite_utfresults.xml");

struct UnitTestConfig {
    UnitTestConfig() {
        boost_utf::unit_test_log.set_stream (utfReportStream);
        boost_utf::unit_test_log.set_format (boost_utf::XML);
        boost_utf::unit_test_log.set_threshold_level (boost_utf::log_test_units);
        //boost_utf::unit_test_log.set_threshold_level (boost_utf::log_successful_tests);
    }

    ~UnitTestConfig() {
    }
};

// //////////////////////////////////////

void testYieldQuoterHelper (const unsigned short iTestFlag,
                           const stdair::Filename_T iYieldInputFilename,
                           const bool isBuiltin) {

    // Output log File
    std::ostringstream oStr;
    oStr << "FQTTestSuite_" << iTestFlag << ".log";
    const stdair::Filename_T lLogFilename (oStr.str());

    // Set the log parameters
    std::ofstream logOutputFile;
    // Open and clean the log outputfile
    logOutputFile.open (lLogFilename.c_str());
    logOutputFile.clear();

    // Initialise the AirRAC service object
    const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
                                           logOutputFile);

    // Initialise the AirRAC service object
    AIRRAC::AIRRAC_Service airracService (lLogParams);

    // Build a sample list of travel solutions
    stdair::TravelSolutionList_T lTravelSolutionList;
    airracService.buildSampleTravelSolutions (lTravelSolutionList);

    // Check whether or not a (CSV) input file should be read
    if (isBuiltin == true) {

        // Build the default sample BOM tree (filled with yields) for AirRAC
        airracService.buildSampleBom();

    } else {

        // Build the BOM tree from parsing the yield input file
        AIRRAC::YieldFilePath lYieldFilePath (iYieldInputFilename);

```

```

    airracService.parseAndLoad (lYieldFilePath);
}

// Calculate the yields for the given travel solution
airracService.calculateYields (lTravelSolutionList);

// Close the log file
logOutputFile.close();
}

// ////////////////////////////////// Main: Unit Test Suite //////////////////////////////////

// Set the UTF configuration (re-direct the output to a specific file)
BOOST_GLOBAL_FIXTURE (UnitTestFixture);

// Start the test suite
BOOST_AUTO_TEST_SUITE (master_test_suite)

BOOST_AUTO_TEST_CASE (airrac_simple_yield) {

    // Input file name
    const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR "/yieldstore01.csv");

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = false;

    // Try to yieldQuote the sample default list of travel solutions
    BOOST_CHECK_NO_THROW (testYieldQuoterHelper (0, lYieldInputFilename, isBuiltin)
        );
}

BOOST_AUTO_TEST_CASE (airrac_error_parsing_input_file) {

    // Input file name
    const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR "/yieldstoreError01.csv");

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = false;

    // Try to yield quote the sample default list of travel solutions
    BOOST_CHECK_THROW (testYieldQuoterHelper (1, lYieldInputFilename, isBuiltin),
        AIRRAC::YieldFileParsingFailedException);
}

BOOST_AUTO_TEST_CASE (airrac_error_missing_input_file) {

    // Input file name
    const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR "/missingFile.csv");

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = false;

    // Try to yield quote the sample default list of travel solutions
    BOOST_CHECK_THROW (testYieldQuoterHelper (2, lYieldInputFilename, isBuiltin),
        AIRRAC::YieldInputFileNotFoundExpection);
}

BOOST_AUTO_TEST_CASE (airrac_simple_yield_built_in) {

    // State whether the BOM tree should be built-in or parsed from an input file

```

```

const bool isBuiltin = true;

// Try to yield quote the sample default list of travel solutions
BOOST_CHECK_NO_THROW (testYieldQuoterHelper (3, " ", isBuiltin));

}

// End the test suite
BOOST_AUTO_TEST_SUITE_END ()

/*!
```

## 17 Directory Hierarchy

### 17.1 Directories

This directory hierarchy is sorted roughly, but not completely, alphabetically:

|                |           |
|----------------|-----------|
| <b>airrac</b>  | <b>50</b> |
| <b>basic</b>   | <b>50</b> |
| <b>batches</b> | <b>50</b> |
| <b>bom</b>     | <b>50</b> |
| <b>command</b> | <b>51</b> |
| <b>factory</b> | <b>51</b> |
| <b>service</b> | <b>51</b> |
| <b>test</b>    | <b>51</b> |
| <b>airrac</b>  | <b>50</b> |

## 18 Namespace Index

### 18.1 Namespace List

Here is a list of all namespaces with brief descriptions:

|                                       |           |
|---------------------------------------|-----------|
| <b>AIRRAC</b>                         | <b>51</b> |
| <b>AIRRAC::YieldParserHelper</b>      | <b>53</b> |
| <b>stdair</b> (Forward declarations ) | <b>55</b> |

## 19 Class Index

### 19.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

|   |           |
|---|-----------|
| <b>AIRRAC::AIRRAC_Service</b>                     | <b>56</b> |
| std::basic_fstream< char >                        |           |
| std::basic_fstream< wchar_t >                     |           |
| std::basic_ifstream< char >                       |           |
| std::basic_ifstream< wchar_t >                    |           |
| std::basic_ios< char >                            |           |
| std::basic_ios< wchar_t >                         |           |
| std::basic_iostream< char >                       |           |
| std::basic_iostream< wchar_t >                    |           |
| std::basic_istream< char >                        |           |
| std::basic_istream< wchar_t >                     |           |
| std::basic_istreamstream< char >                  |           |
| std::basic_istreamstream< wchar_t >               |           |
| std::basic_ofstream< char >                       |           |
| std::basic_ofstream< wchar_t >                    |           |
| std::basic_ostream< char >                        |           |
| std::basic_ostream< wchar_t >                     |           |
| std::basic_ostreamstream< char >                  |           |
| std::basic_ostreamstream< wchar_t >               |           |
| std::basic_string< char >                         |           |
| std::basic_string< wchar_t >                      |           |
| std::basic_stringstream< char >                   |           |
| std::basic_stringstream< wchar_t >                |           |
| <b>CmdAbstract</b>                                | <b>61</b> |
| <b>AIRRAC::YieldFileParser</b>                    | <b>92</b> |
| <b>AIRRAC::YieldParser</b>                        | <b>95</b> |
| <b>AIRRAC::YieldRuleGenerator</b>                 | <b>96</b> |
| <b>FacServiceAbstract</b>                         | <b>64</b> |
| <b>AIRRAC::FacAirracServiceContext</b>            | <b>63</b> |
| <b>FileNotFoundException</b>                      | <b>65</b> |
| <b>AIRRAC::YieldInputFileNotFoundException</b>    | <b>94</b> |
| <b>grammar</b>                                    | <b>67</b> |
| <b>AIRRAC::YieldParserHelper::YieldRuleParser</b> | <b>97</b> |
| <b>InputFilePath</b>                              | <b>67</b> |
| <b>AIRRAC::YieldFilePath</b>                      | <b>93</b> |
| <b>ObjectNotFoundException</b>                    | <b>68</b> |



|  |           |
|--|-----------|
| <b>AIRRAC::AirlineNotFoundException</b>                | <b>55</b> |
| <b>AIRRAC::AirportPairNotFoundException</b>            | <b>56</b> |
| <b>AIRRAC::FeaturesNotFoundException</b>               | <b>65</b> |
| <b>AIRRAC::FlightDateNotFoundException</b>             | <b>66</b> |
| <b>AIRRAC::FlightTimeNotFoundException</b>             | <b>66</b> |
| <b>AIRRAC::PosOrChannelNotFoundException</b>           | <b>70</b> |
| <b>AIRRAC::YieldParserHelper::ParserSemanticAction</b> | <b>68</b> |
| <b>AIRRAC::YieldParserHelper::doEndYield</b>           | <b>61</b> |
| <b>AIRRAC::YieldParserHelper::storeAirlineCode</b>     | <b>72</b> |
| <b>AIRRAC::YieldParserHelper::storeCabinCode</b>       | <b>73</b> |
| <b>AIRRAC::YieldParserHelper::storeChannel</b>         | <b>75</b> |
| <b>AIRRAC::YieldParserHelper::storeClass</b>           | <b>76</b> |
| <b>AIRRAC::YieldParserHelper::storeDateRangeEnd</b>    | <b>77</b> |
| <b>AIRRAC::YieldParserHelper::storeDateRangeStart</b>  | <b>79</b> |
| <b>AIRRAC::YieldParserHelper::storeDestination</b>     | <b>80</b> |
| <b>AIRRAC::YieldParserHelper::storeEndRangeTime</b>    | <b>82</b> |
| <b>AIRRAC::YieldParserHelper::storeOrigin</b>          | <b>83</b> |
| <b>AIRRAC::YieldParserHelper::storePOS</b>             | <b>84</b> |
| <b>AIRRAC::YieldParserHelper::storeStartRangeTime</b>  | <b>86</b> |
| <b>AIRRAC::YieldParserHelper::storeTripType</b>        | <b>87</b> |
| <b>AIRRAC::YieldParserHelper::storeYield</b>           | <b>88</b> |
| <b>AIRRAC::YieldParserHelper::storeYieldId</b>         | <b>90</b> |
| <b>ParsingFileFailedException</b>                      | <b>70</b> |
| <b>AIRRAC::YieldFileParsingFailedException</b>         | <b>93</b> |
| <b>RootException</b>                                   | <b>71</b> |
| <b>AIRRAC::QuotingException</b>                        | <b>71</b> |
| <b>ServiceAbstract</b>                                 | <b>72</b> |
| <b>AIRRAC::AIRRAC_ServiceContext</b>                   | <b>60</b> |
| <b>StructAbstract</b>                                  | <b>91</b> |

|   |                     |
|---|---------------------|
| <a href="#">AIRRAC::YieldRuleStruct</a> | <a href="#">102</a> |
| <a href="#">TestFixture</a>             | <a href="#">92</a>  |
| <a href="#">YieldTestSuite</a>          | <a href="#">111</a> |
| <a href="#">AIRRAC::YieldManager</a>    | <a href="#">95</a>  |

## 20 Class Index

### 20.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

|  |                    |
|--|--------------------|
| <a href="#">AIRRAC::AirlineNotFoundException</a>   | <a href="#">55</a> |
| <a href="#">AIRRAC::AirportPairNotFoundException</a>   | <a href="#">56</a> |
| <a href="#">AIRRAC::AIRRAC_Service</a> (Interface for the <a href="#">AIRRAC</a> Services )                                    | <a href="#">56</a> |
| <a href="#">AIRRAC::AIRRAC_ServiceContext</a> (Inner class holding the context for the <a href="#">AIRRAC</a> Service object ) | <a href="#">60</a> |
| <a href="#">CmdAbstract</a>  | <a href="#">61</a> |
| <a href="#">AIRRAC::YieldParserHelper::doEndYield</a>  | <a href="#">61</a> |
| <a href="#">AIRRAC::FacAirracServiceContext</a> (Factory for the service context )   | <a href="#">63</a> |
| <a href="#">FacServiceAbstract</a>   | <a href="#">64</a> |
| <a href="#">AIRRAC::FeaturesNotFoundException</a>  | <a href="#">65</a> |
| <a href="#">FileNotFoundException</a>  | <a href="#">65</a> |
| <a href="#">AIRRAC::FlightDateNotFoundException</a>  | <a href="#">66</a> |
| <a href="#">AIRRAC::FlightTimeNotFoundException</a>  | <a href="#">66</a> |
| <a href="#">grammar</a>  | <a href="#">67</a> |
| <a href="#">InputFilePath</a>  | <a href="#">67</a> |
| <a href="#">ObjectNotFoundException</a>  | <a href="#">68</a> |
| <a href="#">AIRRAC::YieldParserHelper::ParserSemanticAction</a>  | <a href="#">68</a> |
| <a href="#">ParsingFileFailedException</a>   | <a href="#">70</a> |
| <a href="#">AIRRAC::PosOrChannelNotFoundException</a>  | <a href="#">70</a> |
| <a href="#">AIRRAC::QuotingException</a>   | <a href="#">71</a> |
| <a href="#">RootException</a>  | <a href="#">71</a> |
| <a href="#">ServiceAbstract</a>  | <a href="#">72</a> |

|  |     |
|--|-----|
| <a href="#">AIRRAC::YieldParserHelper::storeAirlineCode</a>  | 72  |
| <a href="#">AIRRAC::YieldParserHelper::storeCabinCode</a>  | 73  |
| <a href="#">AIRRAC::YieldParserHelper::storeChannel</a>  | 75  |
| <a href="#">AIRRAC::YieldParserHelper::storeClass</a>  | 76  |
| <a href="#">AIRRAC::YieldParserHelper::storeDateRangeEnd</a>   | 77  |
| <a href="#">AIRRAC::YieldParserHelper::storeDateRangeStart</a>   | 79  |
| <a href="#">AIRRAC::YieldParserHelper::storeDestination</a>  | 80  |
| <a href="#">AIRRAC::YieldParserHelper::storeEndRangeTime</a>   | 82  |
| <a href="#">AIRRAC::YieldParserHelper::storeOrigin</a>   | 83  |
| <a href="#">AIRRAC::YieldParserHelper::storePOS</a>  | 84  |
| <a href="#">AIRRAC::YieldParserHelper::storeStartRangeTime</a>   | 86  |
| <a href="#">AIRRAC::YieldParserHelper::storeTripType</a>   | 87  |
| <a href="#">AIRRAC::YieldParserHelper::storeYield</a>  | 88  |
| <a href="#">AIRRAC::YieldParserHelper::storeYieldId</a>  | 90  |
| <a href="#">StructAbstract</a>   | 91  |
| <a href="#">TestFixture</a>  | 92  |
| <a href="#">AIRRAC::YieldFileParser</a>  | 92  |
| <a href="#">AIRRAC::YieldFileParsingFailedException</a>  | 93  |
| <a href="#">AIRRAC::YieldFilePath</a>  | 93  |
| <a href="#">AIRRAC::YieldInputFileNotFoundException</a>  | 94  |
| <a href="#">AIRRAC::YieldManager (Command wrapping the travel request process )</a>                    | 95  |
| <a href="#">AIRRAC::YieldParser (Class wrapping the parser entry point )</a>                           | 95  |
| <a href="#">AIRRAC::YieldRuleGenerator</a>   | 96  |
| <a href="#">AIRRAC::YieldParserHelper::YieldRuleParser</a>   | 97  |
| <a href="#">AIRRAC::YieldRuleStruct (Utility Structure for the parsing of Flight-Date structures )</a> | 102 |
| <a href="#">YieldTestSuite</a>   | 111 |

## 21 File Index

### 21.1 File List

Here is a list of all files with brief descriptions:

|  |     |
|--|-----|
| <a href="#">airrac/AIRRAC_Service.hpp</a>                  | 113 |
| <a href="#">airrac/AIRRAC_Types.hpp</a>                    | 116 |
| <a href="#">airrac/basic/BasConst.cpp</a>                  | 119 |
| <a href="#">airrac/basic/BasConst_AIRRAC_Service.hpp</a>   | 121 |
| <a href="#">airrac/basic/BasConst_General.hpp</a>          | 123 |
| <a href="#">airrac/batches/airrac.cpp</a>                  | 127 |
| <a href="#">airrac/bom/YieldRuleStruct.cpp</a>             | 132 |
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| <a href="#">airrac/command/YieldManager.cpp</a>            | 140 |
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| <a href="#">airrac/command/YieldParser.cpp</a>             | 147 |
| <a href="#">airrac/command/YieldParser.hpp</a>             | 149 |
| <a href="#">airrac/command/YieldParserHelper.cpp</a>       | 151 |
| <a href="#">airrac/command/YieldParserHelper.hpp</a>       | 161 |
| <a href="#">airrac/command/YieldRuleGenerator.cpp</a>      | 165 |
| <a href="#">airrac/command/YieldRuleGenerator.hpp</a>      | 170 |
| <a href="#">airrac/factory/FacAirracServiceContext.cpp</a> | 172 |
| <a href="#">airrac/factory/FacAirracServiceContext.hpp</a> | 174 |
| <a href="#">airrac/service/AIRRAC_Service.cpp</a>          | 176 |
| <a href="#">airrac/service/AIRRAC_ServiceContext.cpp</a>   | 183 |
| <a href="#">airrac/service/AIRRAC_ServiceContext.hpp</a>   | 185 |
| <a href="#">test/airrac/YieldTestSuite.cpp</a>             | 188 |
| <a href="#">test/airrac/YieldTestSuite.hpp</a>             | 192 |

## 22 Directory Documentation

### 22.1 test/airrac/ Directory Reference

#### Files

- file [YieldTestSuite.cpp](#)
- file [YieldTestSuite.hpp](#)

### 22.2 airrac/ Directory Reference

#### Directories

- directory [basic](#)
- directory [batches](#)
- directory [bom](#)
- directory [command](#)
- directory [factory](#)
- directory [service](#)

#### Files

- file [AIRRAC\\_Service.hpp](#)
- file [AIRRAC\\_Types.hpp](#)

### 22.3 airrac/basic/ Directory Reference

#### Files

- file [BasConst.cpp](#)
- file [BasConst\\_AIRRAC\\_Service.hpp](#)
- file [BasConst\\_General.hpp](#)

### 22.4 airrac/batches/ Directory Reference

#### Files

- file [airrac.cpp](#)

### 22.5 airrac/bom/ Directory Reference

#### Files

- file [YieldRuleStruct.cpp](#)
- file [YieldRuleStruct.hpp](#)

## 22.6 airrac/command/ Directory Reference

### Files

- file [YieldManager.cpp](#)
- file [YieldManager.hpp](#)
- file [YieldParser.cpp](#)
- file [YieldParser.hpp](#)
- file [YieldParserHelper.cpp](#)
- file [YieldParserHelper.hpp](#)
- file [YieldRuleGenerator.cpp](#)
- file [YieldRuleGenerator.hpp](#)

## 22.7 airrac/factory/ Directory Reference

### Files

- file [FacAirracServiceContext.cpp](#)
- file [FacAirracServiceContext.hpp](#)

## 22.8 airrac/service/ Directory Reference

### Files

- file [AIRRAC\\_Service.cpp](#)
- file [AIRRAC\\_ServiceContext.cpp](#)
- file [AIRRAC\\_ServiceContext.hpp](#)

## 22.9 test/ Directory Reference

### Directories

- directory [airrac](#)

# 23 Namespace Documentation

## 23.1 AIRRAC Namespace Reference

### Namespaces

- namespace [YieldParserHelper](#)

### Classes

- class [AIRRAC\\_Service](#)  
*Interface for the [AIRRAC](#) Services.*
- class [AirportPairNotFoundException](#)

- class [PosOrChannelNotFoundException](#)
- class [FlightDateNotFoundException](#)
- class [FlightTimeNotFoundException](#)
- class [FeaturesNotFoundException](#)
- class [AirlineNotFoundException](#)
- class [YieldInputFileNotFoundException](#)
- class [YieldFileParsingFailedException](#)
- class [QuotingException](#)
- class [YieldFilePath](#)
- struct [YieldRuleStruct](#)

*Utility Structure for the parsing of Flight-Date structures.*

- class [YieldManager](#)

*Command wrapping the travel request process.*

- class [YieldParser](#)

*Class wrapping the parser entry point.*

- class [YieldFileParser](#)
- class [YieldRuleGenerator](#)
- class [FacAirracServiceContext](#)

*Factory for the service context.*

- class [AIRRAC\\_ServiceContext](#)

*Inner class holding the context for the [AIRRAC](#) Service object.*

## Typedefs

- typedef boost::shared\_ptr< [AIRRAC\\_Service](#) > [AIRRAC\\_ServicePtr\\_T](#)
- typedef unsigned int [YieldID\\_T](#)

## Variables

- const std::string [DEFAULT\\_AIRLINE\\_CODE](#) = "BA"

### 23.1.1 Typedef Documentation

#### 23.1.1.1 typedef boost::shared\_ptr<AIRRAC\_Service> AIRRAC::AIRRAC\_ServicePtr\_T

Definition at line 95 of file [AIRRAC\\_Types.hpp](#).

#### 23.1.1.2 typedef unsigned int AIRRAC::YieldID\_T

ID for the Yield Quote system.

Definition at line 102 of file [AIRRAC\\_Types.hpp](#).

### 23.1.2 Variable Documentation

#### 23.1.2.1 `const std::string AIRRAC::DEFAULT_AIRLINE_CODE = "BA"`

Default airline name for the [AIRRAC\\_Service](#).

Definition at line 10 of file [BasConst.cpp](#).

## 23.2 AIRRAC::YieldParserHelper Namespace Reference

### Classes

- struct [YieldRuleParser](#)
- struct [ParserSemanticAction](#)
- struct [storeYieldId](#)
- struct [storeOrigin](#)
- struct [storeDestination](#)
- struct [storeTripType](#)
- struct [storeDateRangeStart](#)
- struct [storeDateRangeEnd](#)
- struct [storeStartRangeTime](#)
- struct [storeEndRangeTime](#)
- struct [storePOS](#)
- struct [storeCabinCode](#)
- struct [storeChannel](#)
- struct [storeYield](#)
- struct [storeAirlineCode](#)
- struct [storeClass](#)
- struct [doEndYield](#)

### Variables

- `stdair::int1_p_t` [int1\\_p](#)
- `stdair::uint2_p_t` [uint2\\_p](#)
- `stdair::uint4_p_t` [uint4\\_p](#)
- `stdair::uint1_4_p_t` [uint1\\_4\\_p](#)
- `stdair::hour_p_t` [hour\\_p](#)
- `stdair::minute_p_t` [minute\\_p](#)
- `stdair::second_p_t` [second\\_p](#)
- `stdair::year_p_t` [year\\_p](#)
- `stdair::month_p_t` [month\\_p](#)
- `stdair::day_p_t` [day\\_p](#)

### 23.2.1 Variable Documentation

#### 23.2.1.1 `stdair::int1_p_t AIRRAC::YieldParserHelper::int1_p`

Namespaces. 1-digit-integer parser

Definition at line 341 of file [YieldParserHelper.cpp](#).



**23.2.1.2 stdair::uint2\_p\_t AIRRAC::YieldParserHelper::uint2\_p**

2-digit-integer parser

Definition at line 344 of file [YieldParserHelper.cpp](#).**23.2.1.3 stdair::uint4\_p\_t AIRRAC::YieldParserHelper::uint4\_p**

4-digit-integer parser

Definition at line 347 of file [YieldParserHelper.cpp](#).**23.2.1.4 stdair::uint1\_4\_p\_t AIRRAC::YieldParserHelper::uint1\_4\_p**

Up-to-4-digit-integer parser

Definition at line 350 of file [YieldParserHelper.cpp](#).Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).**23.2.1.5 stdair::hour\_p\_t AIRRAC::YieldParserHelper::hour\_p**

Time element parsers.

Definition at line 353 of file [YieldParserHelper.cpp](#).Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).**23.2.1.6 stdair::minute\_p\_t AIRRAC::YieldParserHelper::minute\_p**Definition at line 354 of file [YieldParserHelper.cpp](#).Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).**23.2.1.7 stdair::second\_p\_t AIRRAC::YieldParserHelper::second\_p**Definition at line 355 of file [YieldParserHelper.cpp](#).Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).**23.2.1.8 stdair::year\_p\_t AIRRAC::YieldParserHelper::year\_p**

Date element parsers.

Definition at line 358 of file [YieldParserHelper.cpp](#).Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).**23.2.1.9 stdair::month\_p\_t AIRRAC::YieldParserHelper::month\_p**

Definition at line 359 of file [YieldParserHelper.cpp](#).

Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

#### 23.2.1.10 stdair::day\_p\_t AIRRAC::YieldParserHelper::day\_p

Definition at line 360 of file [YieldParserHelper.cpp](#).

Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

## 23.3 stdair Namespace Reference

Forward declarations.

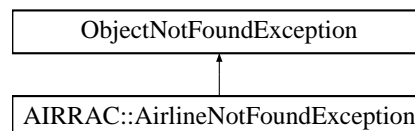
### 23.3.1 Detailed Description

Forward declarations.

## 24 Class Documentation

### 24.1 AIRRAC::AirlineNotFoundException Class Reference

`#include <airrac/AIRRAC_Types.hpp>` Inheritance diagram for AIRRAC::AirlineNotFoundException:



#### Public Member Functions

- [AirlineNotFoundException](#) (const std::string &iWhat)

#### 24.1.1 Detailed Description

Definition at line 54 of file [AIRRAC\\_Types.hpp](#).

#### 24.1.2 Constructor & Destructor Documentation

##### 24.1.2.1 AIRRAC::AirlineNotFoundException::AirlineNotFoundException (const std::string &iWhat) [inline]

Constructor.

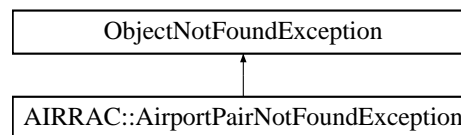
Definition at line 57 of file [AIRRAC\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.2 AIRRAC::AirportPairNotFoundException Class Reference

`#include <airrac/AIRRAC_Types.hpp>` Inheritance diagram for AIRRAC::AirportPairNotFoundException::



### Public Member Functions

- [AirportPairNotFoundException](#) (const std::string &iWhat)

#### 24.2.1 Detailed Description

Definition at line 19 of file [AIRRAC\\_Types.hpp](#).

#### 24.2.2 Constructor & Destructor Documentation

##### 24.2.2.1 AIRRAC::AirportPairNotFoundException::AirportPairNotFoundException (const std::string &iWhat) [inline]

Constructor.

Definition at line 22 of file [AIRRAC\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.3 AIRRAC::AIRRAC\_Service Class Reference

Interface for the [AIRRAC](#) Services.

`#include <airrac/AIRRAC_Service.hpp>`

### Public Member Functions

- [AIRRAC\\_Service](#) (const stdair::BasLogParams &)
- [AIRRAC\\_Service](#) (const stdair::BasLogParams &, const stdair::BasDBParams &)
- [AIRRAC\\_Service](#) (stdair::STDAIR\_ServicePtr\_T ioSTDAIR\_ServicePtr)
- void [parseAndLoad](#) (const [YieldFilePath](#) &iYieldFilename)
- [~AIRRAC\\_Service](#) ()

- void [calculateYields](#) (stdair::TravelSolutionList\_T &)
- void [updateYields](#) (stdair::BomRoot &)
- void [buildSampleBom](#) ()
- void [clonePersistentBom](#) ()
- void [buildComplementaryLinks](#) (stdair::BomRoot &)
- void [buildSampleTravelSolutions](#) (stdair::TravelSolutionList\_T &)
- std::string [csvDisplay](#) () const
- std::string [csvDisplay](#) (const stdair::TravelSolutionList\_T &) const

### 24.3.1 Detailed Description

Interface for the [AIRRAC](#) Services.

Definition at line 30 of file [AIRRAC\\_Service.hpp](#).

### 24.3.2 Constructor & Destructor Documentation

#### 24.3.2.1 AIRRAC::AIRRAC\_Service::AIRRAC\_Service (const stdair::BasLogParams & iLogParams)

Constructor.

The `initAirracService()` method is called; see the corresponding documentation for more details.

A reference on an output stream is given, so that log outputs can be directed onto that stream.

#### Parameters:

**const** stdair::BasLogParams& Parameters for the output log stream.

Definition at line 34 of file [AIRRAC\\_Service.cpp](#).

#### 24.3.2.2 AIRRAC::AIRRAC\_Service::AIRRAC\_Service (const stdair::BasLogParams & iLogParams, const stdair::BasDBParams & iDBParams)

Constructor.

The `initAirracService()` method is called; see the corresponding documentation for more details.

A reference on an output stream is given, so that log outputs can be directed onto that stream.

#### Parameters:

**const** stdair::BasLogParams& Parameters for the output log stream.

**const** stdair::BasDBParams& Parameters for the database access.

Definition at line 54 of file [AIRRAC\\_Service.cpp](#).

#### 24.3.2.3 AIRRAC::AIRRAC\_Service::AIRRAC\_Service (stdair::STDAIR\_ServicePtr\_T ioSTDAIR\_ServicePtr)

Constructor.

The `initAirracService()` method is called; see the corresponding documentation for more details.

Moreover, as no reference on any output stream is given, it is assumed that the StdAir log service has already been initialised with the proper log output stream by some other methods in the calling chain (for instance, when the [AIRRAC\\_Service](#) is itself being initialised by another library service such as SIMCRS\_Service).

#### Parameters:

*stdair::STDAIR\_ServicePtr\_T* Reference on the STDAIR service.

Definition at line 76 of file [AIRRAC\\_Service.cpp](#).

#### 24.3.2.4 AIRRAC::AIRRAC\_Service::~~AIRRAC\_Service ()

Destructor.

Definition at line 92 of file [AIRRAC\\_Service.cpp](#).

### 24.3.3 Member Function Documentation

#### 24.3.3.1 void AIRRAC::AIRRAC\_Service::parseAndLoad (const YieldFilePath & iYieldFilename)

Parse the yield input file, and load them into memory.

The CSV files, describing the airline schedule and the O&Ds for the simulator, are parsed and instantiated in memory accordingly.

#### Parameters:

*const* [YieldFilePath](#)& Filename of the input yield file.

Definition at line 170 of file [AIRRAC\\_Service.cpp](#).

References [buildComplementaryLinks\(\)](#), [clonePersistentBom\(\)](#), and [AIRRAC::YieldParser::generateYieldStore\(\)](#).

Referenced by [main\(\)](#).

#### 24.3.3.2 void AIRRAC::AIRRAC\_Service::calculateYields (stdair::TravelSolutionList\_T & ioTravelSolutionList)

Calculate/retrieve a yield.

Definition at line 402 of file [AIRRAC\\_Service.cpp](#).

#### 24.3.3.3 void AIRRAC::AIRRAC\_Service::updateYields (stdair::BomRoot & ioBomRoot)

Update the yields for booking classes and O&D.

Definition at line 433 of file [AIRRAC\\_Service.cpp](#).

#### 24.3.3.4 void AIRRAC::AIRRAC\_Service::buildSampleBom ()

Build a sample BOM tree.

For now, no object is created: the BOM tree remains empty. In the future, it will hold a sample yield store.

Definition at line 223 of file [AIRRAC\\_Service.cpp](#).

References [buildComplementaryLinks\(\)](#), and [clonePersistentBom\(\)](#).

Referenced by [main\(\)](#).

#### 24.3.3.5 void AIRRAC::AIRRAC\_Service::clonePersistentBom ()

Clone the persistent sample BOM tree.

Definition at line 280 of file [AIRRAC\\_Service.cpp](#).

References [buildComplementaryLinks\(\)](#).

Referenced by [buildSampleBom\(\)](#), and [parseAndLoad\(\)](#).

#### 24.3.3.6 void AIRRAC::AIRRAC\_Service::buildComplementaryLinks (stdair::BomRoot & ioBomRoot)

Build all the complementary links in the given bom root object.

##### Note:

Do nothing for now.

Definition at line 326 of file [AIRRAC\\_Service.cpp](#).

Referenced by [buildSampleBom\(\)](#), [clonePersistentBom\(\)](#), and [parseAndLoad\(\)](#).

#### 24.3.3.7 void AIRRAC::AIRRAC\_Service::buildSampleTravelSolutions (stdair::TravelSolutionList\_T & ioTravelSolutionList)

Build a sample list of travel solutions.

As of now (March 2011), that list is made of the following travel solutions:

- BA9
- LHR-SYD
- 2011-06-10
- Q
- WTP: 900
- Change fee: 20; Non refundable; Saturday night stay

##### Parameters:

*TravelSolutionList\_T*& Sample list of travel solution structures. It should be given empty. It is altered with the returned sample.

Definition at line 332 of file [AIRRAC\\_Service.cpp](#).

Referenced by [main\(\)](#).

**24.3.3.8 std::string AIRRAC::AIRRAC\_Service::csvDisplay () const**

Recursively display (dump in the returned string) the objects of the BOM tree.

**Returns:**

std::string Output string in which the BOM tree is logged/dumped.

Definition at line 352 of file [AIRRAC\\_Service.cpp](#).

Referenced by [main\(\)](#).

**24.3.3.9 std::string AIRRAC::AIRRAC\_Service::csvDisplay (const stdair::TravelSolutionList\_T & ioTravelSolutionList) const**

Display (dump in the returned string) the full list of travel solution structures.

**Returns:**

std::string Output string in which the list of travel solutions is logged/dumped.

Definition at line 380 of file [AIRRAC\\_Service.cpp](#).

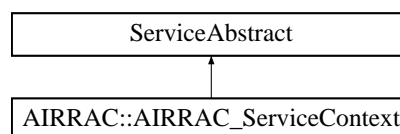
The documentation for this class was generated from the following files:

- [airrac/AIRRAC\\_Service.hpp](#)
- [airrac/service/AIRRAC\\_Service.cpp](#)

**24.4 AIRRAC::AIRRAC\_ServiceContext Class Reference**

Inner class holding the context for the [AIRRAC](#) Service object.

`#include <airrac/service/AIRRAC_ServiceContext.hpp>` Inheritance diagram for AIRRAC::AIRRAC\_ServiceContext::

**Friends**

- class [AIRRAC\\_Service](#)
- class [FacAirracsServiceContext](#)

**24.4.1 Detailed Description**

Inner class holding the context for the [AIRRAC](#) Service object.

Definition at line 25 of file [AIRRAC\\_ServiceContext.hpp](#).

## 24.4.2 Friends And Related Function Documentation

### 24.4.2.1 friend class AIRRAC\_Service [friend]

The [AIRRAC\\_Service](#) class should be the sole class to get access to ServiceContext content: general users do not want to bother with a context interface.

Definition at line 31 of file [AIRRAC\\_ServiceContext.hpp](#).

### 24.4.2.2 friend class FacAirracServiceContext [friend]

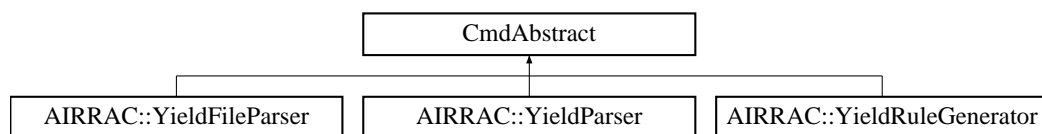
Definition at line 32 of file [AIRRAC\\_ServiceContext.hpp](#).

The documentation for this class was generated from the following files:

- [airrac/service/AIRRAC\\_ServiceContext.hpp](#)
- [airrac/service/AIRRAC\\_ServiceContext.cpp](#)

## 24.5 CmdAbstract Class Reference

Inheritance diagram for CmdAbstract::

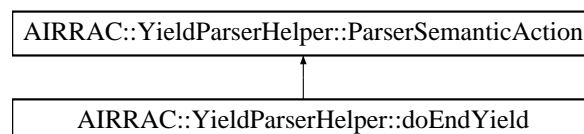


The documentation for this class was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldRuleGenerator.hpp](#)
- [airrac/command/YieldParser.hpp](#)

## 24.6 AIRRAC::YieldParserHelper::doEndYield Struct Reference

`#include <airrac/command/YieldParserHelper.hpp>`Inheritance diagram for AIRRAC::YieldParserHelper::doEndYield::



### Public Member Functions

- [doEndYield](#) (stdair::BomRoot &, [YieldRuleStruct](#) &)



- void [operator\(\)](#) (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- stdair::BomRoot & [\\_bomRoot](#)
- [YieldRuleStruct](#) & [\\_yieldRule](#)

### 24.6.1 Detailed Description

Mark the end of the yield-rule parsing.

Definition at line 178 of file [YieldParserHelper.hpp](#).

### 24.6.2 Constructor & Destructor Documentation

#### 24.6.2.1 AIRRAC::YieldParserHelper::doEndYield::doEndYield (stdair::BomRoot & *ioBomRoot*, YieldRuleStruct & *ioYieldRule*)

Actor Constructor.

Definition at line 314 of file [YieldParserHelper.cpp](#).

### 24.6.3 Member Function Documentation

#### 24.6.3.1 void AIRRAC::YieldParserHelper::doEndYield::operator() (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

Actor Function (functor).

Definition at line 321 of file [YieldParserHelper.cpp](#).

References [\\_bomRoot](#), [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), and [AIRRAC::YieldRuleStruct::describe\(\)](#).

### 24.6.4 Member Data Documentation

#### 24.6.4.1 stdair::BomRoot& AIRRAC::YieldParserHelper::doEndYield::\_bomRoot

Actor Specific Context.

Definition at line 186 of file [YieldParserHelper.hpp](#).

Referenced by [operator\(\)](#).

#### 24.6.4.2 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

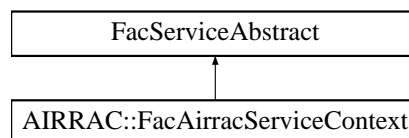
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.7 AIRRAC::FacAirracsServiceContext Class Reference

Factory for the service context.

`#include <airrac/factory/FacAirracsServiceContext.hpp>`Inheritance diagram for AIRRAC::FacAirracsServiceContext::



### Public Member Functions

- [~FacAirracsServiceContext \(\)](#)
- [AIRRAC\\_ServiceContext & create \(\)](#)

### Static Public Member Functions

- static [FacAirracsServiceContext & instance \(\)](#)

### Protected Member Functions

- [FacAirracsServiceContext \(\)](#)

#### 24.7.1 Detailed Description

Factory for the service context.

Definition at line 21 of file [FacAirracsServiceContext.hpp](#).

#### 24.7.2 Constructor & Destructor Documentation

##### 24.7.2.1 AIRRAC::FacAirracsServiceContext::~~FacAirracsServiceContext ()

Destructor.

The Destruction put the `_instance` to NULL in order to be clean for the next `FacSimfqtServiceContext::instance()`.

Definition at line 17 of file [FacAirracsServiceContext.cpp](#).

#### 24.7.2.2 AIRRAC::FacAirracsServiceContext::FacAirracsServiceContext () [`inline`, `protected`]

Default Constructor.

This constructor is protected in order to ensure the singleton pattern.

Definition at line 56 of file [FacAirracsServiceContext.hpp](#).

Referenced by [instance\(\)](#).

### 24.7.3 Member Function Documentation

#### 24.7.3.1 FacAirracsServiceContext & AIRRAC::FacAirracsServiceContext::instance () [`static`]

Provide the unique instance.

The singleton is instantiated when first used.

##### Returns:

`FacServiceContext&`

Definition at line 22 of file [FacAirracsServiceContext.cpp](#).

References [FacAirracsServiceContext\(\)](#).

#### 24.7.3.2 AIRRAC\_ServiceContext & AIRRAC::FacAirracsServiceContext::create ()

Create a new ServiceContext object.

This new object is added to the list of instantiated objects.

##### Returns:

`ServiceContext&` The newly created object.

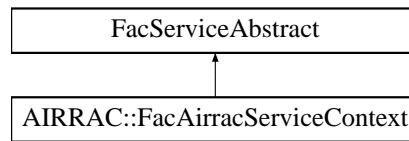
Definition at line 34 of file [FacAirracsServiceContext.cpp](#).

The documentation for this class was generated from the following files:

- [airrac/factory/FacAirracsServiceContext.hpp](#)
- [airrac/factory/FacAirracsServiceContext.cpp](#)

## 24.8 FacServiceAbstract Class Reference

Inheritance diagram for `FacServiceAbstract`:

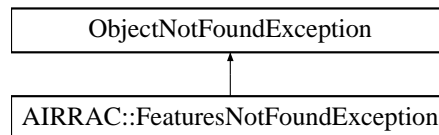


The documentation for this class was generated from the following file:

- [airrac/factory/FacAirracServiceContext.hpp](#)

## 24.9 AIRRAC::FeaturesNotFoundException Class Reference

`#include <airrac/AIRRAC_Types.hpp>`  
 Inheritance diagram for AIRRAC::FeaturesNotFoundException::



### Public Member Functions

- [FeaturesNotFoundException](#) (const std::string &iWhat)

#### 24.9.1 Detailed Description

Definition at line 47 of file [AIRRAC\\_Types.hpp](#).

#### 24.9.2 Constructor & Destructor Documentation

##### 24.9.2.1 AIRRAC::FeaturesNotFoundException::FeaturesNotFoundException (const std::string &iWhat) [inline]

Constructor.

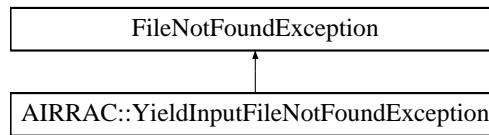
Definition at line 50 of file [AIRRAC\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.10 FileNotFoundException Class Reference

Inheritance diagram for FileNotFoundException::

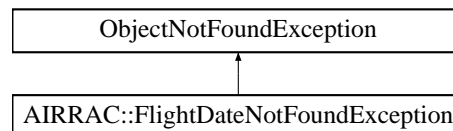


The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.11 AIRRAC::FlightDateNotFoundException Class Reference

`#include <airrac/AIRRAC_Types.hpp>`  
 Inheritance diagram for AIRRAC::FlightDateNotFoundException::



### Public Member Functions

- [FlightDateNotFoundException](#) (const std::string &iWhat)

#### 24.11.1 Detailed Description

Definition at line 33 of file [AIRRAC\\_Types.hpp](#).

#### 24.11.2 Constructor & Destructor Documentation

##### 24.11.2.1 AIRRAC::FlightDateNotFoundException::FlightDateNotFoundException (const std::string &iWhat) [inline]

Constructor.

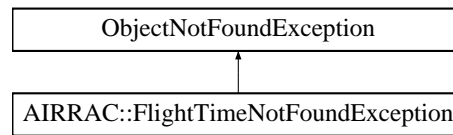
Definition at line 36 of file [AIRRAC\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.12 AIRRAC::FlightTimeNotFoundException Class Reference

`#include <airrac/AIRRAC_Types.hpp>`  
 Inheritance diagram for AIRRAC::FlightTimeNotFoundException::



### Public Member Functions

- [FlightTimeNotFoundException](#) (const std::string &iWhat)

#### 24.12.1 Detailed Description

Definition at line 40 of file [AIRRAC\\_Types.hpp](#).

#### 24.12.2 Constructor & Destructor Documentation

##### 24.12.2.1 AIRRAC::FlightTimeNotFoundException::FlightTimeNotFoundException (const std::string &iWhat) [inline]

Constructor.

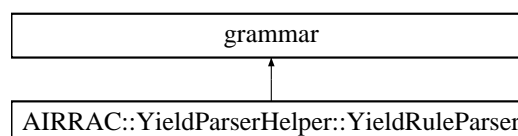
Definition at line 43 of file [AIRRAC\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.13 grammar Class Reference

Inheritance diagram for grammar::

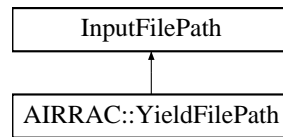


The documentation for this class was generated from the following file:

- [airrac/command/YieldParserHelper.cpp](#)

## 24.14 InputFilePath Class Reference

Inheritance diagram for InputFilePath::

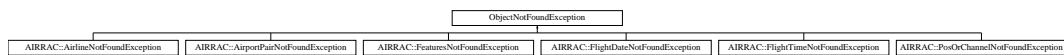


The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.15 ObjectNotFoundException Class Reference

Inheritance diagram for ObjectNotFoundException::

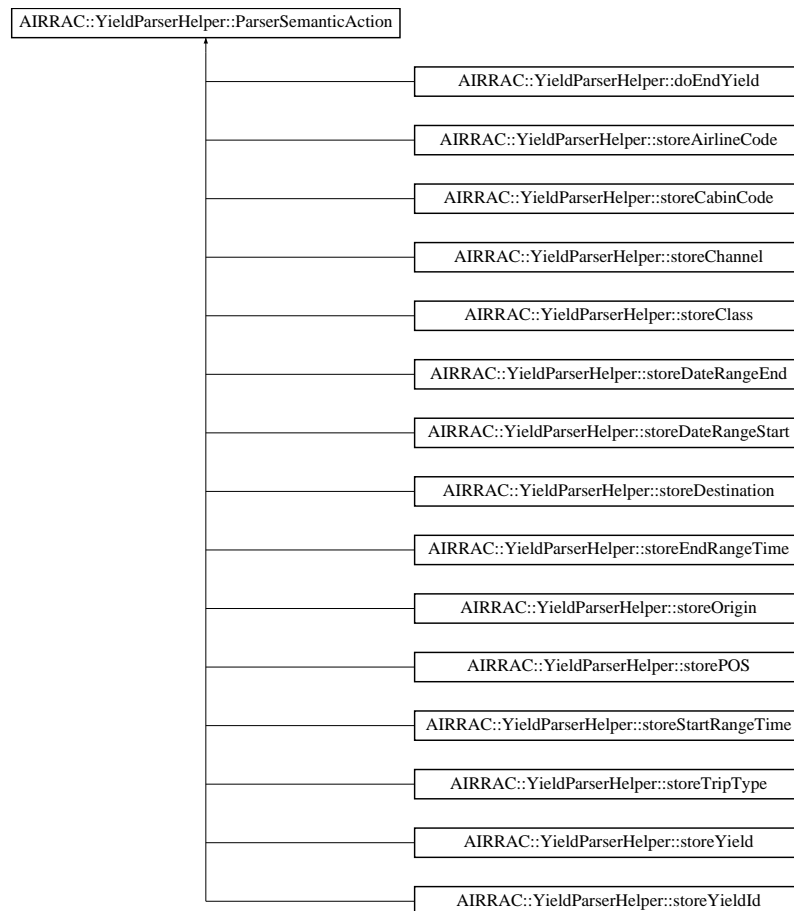


The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.16 AIRRAC::YieldParserHelper::ParserSemanticAction Struct Reference

`#include <airrac/command/YieldParserHelper.hpp>`  
 Inheritance diagram for AIRRAC::YieldParserHelper::ParserSemanticAction::



### Public Member Functions

- [ParserSemanticAction](#) ([YieldRuleStruct](#) &)

### Public Attributes

- [YieldRuleStruct](#) & [\\_yieldRule](#)

#### 24.16.1 Detailed Description

Generic Semantic Action (Actor / Functor) for the Yield Parser.

Definition at line 30 of file [YieldParserHelper.hpp](#).

#### 24.16.2 Constructor & Destructor Documentation

##### 24.16.2.1 AIRRAC::YieldParserHelper::ParserSemanticAction::ParserSemanticAction ([YieldRuleStruct](#) & *ioYieldRule*)

Actor Constructor.

Definition at line 28 of file [YieldParserHelper.cpp](#).



### 24.16.3 Member Data Documentation

#### 24.16.3.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

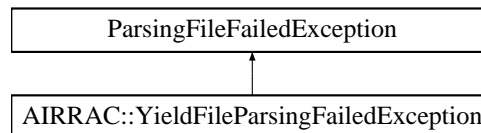
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.17 ParsingFileFailedException Class Reference

Inheritance diagram for ParsingFileFailedException::

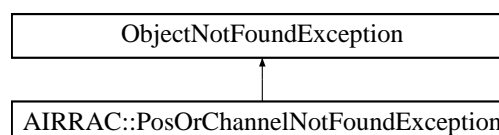


The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.18 AIRRAC::PosOrChannelNotFoundException Class Reference

`#include <airrac/AIRRAC_Types.hpp>`  
Inheritance diagram for AIRRAC::PosOrChannelNotFoundException::



### Public Member Functions

- [PosOrChannelNotFoundException](#) (const std::string &iWhat)

### 24.18.1 Detailed Description

Definition at line 26 of file [AIRRAC\\_Types.hpp](#).

### 24.18.2 Constructor & Destructor Documentation

#### 24.18.2.1 AIRRAC::PosOrChannelNotFoundException::PosOrChannelNotFoundException (const std::string & *iWhat*) [inline]

Constructor.

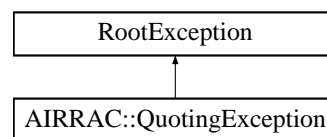
Definition at line 29 of file [AIRRAC\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.19 AIRRAC::QuotingException Class Reference

`#include <airrac/AIRRAC_Types.hpp>`Inheritance diagram for AIRRAC::QuotingException::



### 24.19.1 Detailed Description

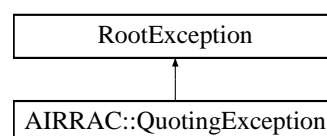
Definition at line 75 of file [AIRRAC\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.20 RootException Class Reference

Inheritance diagram for RootException::

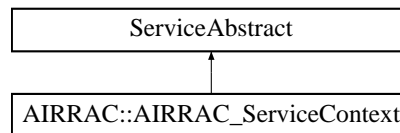


The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.21 ServiceAbstract Class Reference

Inheritance diagram for ServiceAbstract::

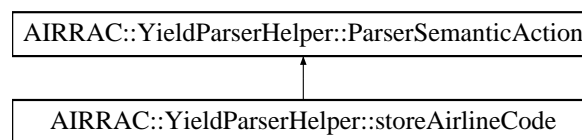


The documentation for this class was generated from the following file:

- [airrac/service/AIRRAC\\_ServiceContext.hpp](#)

## 24.22 AIRRAC::YieldParserHelper::storeAirlineCode Struct Reference

`#include <airrac/command/YieldParserHelper.hpp>`Inheritance diagram for AIRRAC::YieldParserHelper::storeAirlineCode::



### Public Member Functions

- [storeAirlineCode](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [YieldRuleStruct](#) & [\\_yieldRule](#)

#### 24.22.1 Detailed Description

Store the parsed airline code.

Definition at line 158 of file [YieldParserHelper.hpp](#).

#### 24.22.2 Constructor & Destructor Documentation

##### 24.22.2.1 AIRRAC::YieldParserHelper::storeAirlineCode::storeAirlineCode (YieldRuleStruct & ioYieldRule)

Actor Constructor.

Definition at line 270 of file [YieldParserHelper.cpp](#).

### 24.22.3 Member Function Documentation

#### 24.22.3.1 void AIRRAC::YieldParserHelper::storeAirlineCode::operator() (std::vector< char > iChar, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

Actor Function (functor).

Definition at line 275 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), [AIRRAC::YieldRuleStruct::addAirlineCode\(\)](#), and [AIRRAC::YieldRuleStruct::setAirlineCode\(\)](#).

### 24.22.4 Member Data Documentation

#### 24.22.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

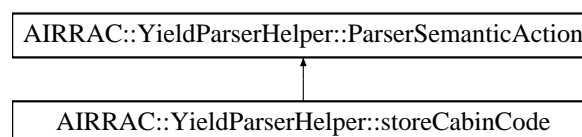
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.23 AIRRAC::YieldParserHelper::storeCabinCode Struct Reference

#include <airrac/command/YieldParserHelper.hpp> Inheritance diagram for AIRRAC::YieldParserHelper::storeCabinCode::



### Public Member Functions

- [storeCabinCode](#) ([YieldRuleStruct](#) &)
- [operator\(\)](#) (char, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

**Public Attributes**

- [YieldRuleStruct](#) & [\\_yieldRule](#)

**24.23.1 Detailed Description**

Store the cabin code.

Definition at line 128 of file [YieldParserHelper.hpp](#).

**24.23.2 Constructor & Destructor Documentation****24.23.2.1 AIRRAC::YieldParserHelper::storeCabinCode::storeCabinCode (YieldRuleStruct & ioYieldRule)**

Actor Constructor.

Definition at line 212 of file [YieldParserHelper.cpp](#).

**24.23.3 Member Function Documentation****24.23.3.1 void AIRRAC::YieldParserHelper::storeCabinCode::operator() (char iChar, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const**

Actor Function (functor).

Definition at line 217 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), and [AIRRAC::YieldRuleStruct::setCabinCode\(\)](#).

**24.23.4 Member Data Documentation****24.23.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]**

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

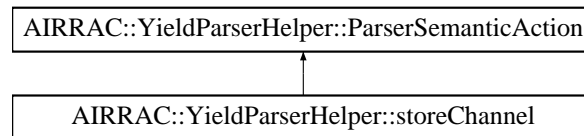
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.24 AIRRAC::YieldParserHelper::storeChannel Struct Reference

#include <airrac/command/YieldParserHelper.hpp> Inheritance diagram for AIRRAC::YieldParserHelper::storeChannel::



### Public Member Functions

- [storeChannel](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [YieldRuleStruct](#) & [\\_yieldRule](#)

#### 24.24.1 Detailed Description

Store the channel distribution.

Definition at line 138 of file [YieldParserHelper.hpp](#).

#### 24.24.2 Constructor & Destructor Documentation

##### 24.24.2.1 AIRRAC::YieldParserHelper::storeChannel::storeChannel (YieldRuleStruct & ioYieldRule)

Actor Constructor.

Definition at line 233 of file [YieldParserHelper.cpp](#).

#### 24.24.3 Member Function Documentation

##### 24.24.3.1 void AIRRAC::YieldParserHelper::storeChannel::operator() (std::vector< char > iChar, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

Actor Function (functor).

Definition at line 238 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), and [AIRRAC::YieldRuleStruct::setChannel\(\)](#).

### 24.24.4 Member Data Documentation

#### 24.24.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

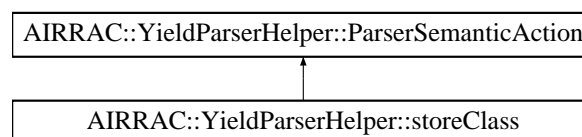
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.25 AIRRAC::YieldParserHelper::storeClass Struct Reference

`#include <airrac/command/YieldParserHelper.hpp>`Inheritance diagram for AIRRAC::YieldParserHelper::storeClass::



### Public Member Functions

- [storeClass](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [YieldRuleStruct](#) & [\\_yieldRule](#)

#### 24.25.1 Detailed Description

Store the parsed class.

Definition at line 168 of file [YieldParserHelper.hpp](#).

## 24.25.2 Constructor & Destructor Documentation

### 24.25.2.1 AIRRAC::YieldParserHelper::storeClass::storeClass (YieldRuleStruct & *ioYieldRule*)

Actor Constructor.

Definition at line 290 of file [YieldParserHelper.cpp](#).

## 24.25.3 Member Function Documentation

### 24.25.3.1 void AIRRAC::YieldParserHelper::storeClass::operator() (std::vector< char > *iChar*, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

Actor Function (functor).

Definition at line 295 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), and [AIRRAC::YieldRuleStruct::addClassCode\(\)](#).

## 24.25.4 Member Data Documentation

### 24.25.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

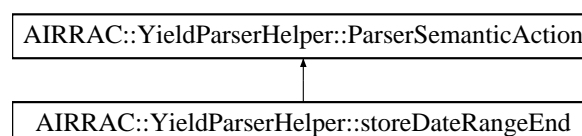
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.26 AIRRAC::YieldParserHelper::storeDateRangeEnd Struct Reference

#include <airrac/command/YieldParserHelper.hpp> Inheritance diagram for AIRRAC::YieldParserHelper::storeDateRangeEnd:





**Public Member Functions**

- [storeDateRangeEnd](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

**Public Attributes**

- [YieldRuleStruct](#) & [\\_yieldRule](#)

**24.26.1 Detailed Description**

Store the parsed end of the date range.

Definition at line 88 of file [YieldParserHelper.hpp](#).

**24.26.2 Constructor & Destructor Documentation****24.26.2.1 AIRRAC::YieldParserHelper::storeDateRangeEnd::storeDateRangeEnd (YieldRuleStruct & *ioYieldRule*)**

Actor Constructor.

Definition at line 129 of file [YieldParserHelper.cpp](#).

**24.26.3 Member Function Documentation****24.26.3.1 void AIRRAC::YieldParserHelper::storeDateRangeEnd::operator() (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const**

Actor Function (functor).

Definition at line 134 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), [AIRRAC::YieldRuleStruct::calculateDate\(\)](#), and [AIRRAC::YieldRuleStruct::setDateRangeEnd\(\)](#).

**24.26.4 Member Data Documentation****24.26.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]**

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#)

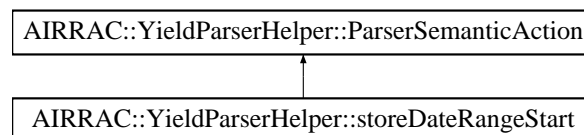
[operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.27 AIRRAC::YieldParserHelper::storeDateRangeStart Struct Reference

`#include <airrac/command/YieldParserHelper.hpp>`Inheritance diagram for AIRRAC::YieldParserHelper::storeDateRangeStart::



### Public Member Functions

- [storeDateRangeStart](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [YieldRuleStruct](#) & [\\_yieldRule](#)

#### 24.27.1 Detailed Description

Store the parsed start of the date range.

Definition at line 78 of file [YieldParserHelper.hpp](#).

#### 24.27.2 Constructor & Destructor Documentation

##### 24.27.2.1 AIRRAC::YieldParserHelper::storeDateRangeStart::storeDateRangeStart (YieldRuleStruct & *ioYieldRule*)

Actor Constructor.

Definition at line 113 of file [YieldParserHelper.cpp](#).

### 24.27.3 Member Function Documentation

**24.27.3.1** void AIRRAC::YieldParserHelper::storeDateRangeStart::operator()  
(boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type,  
boost::spirit::qi::unused\_type) const

Actor Function (functor).

Definition at line 118 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), [AIR-  
RAC::YieldRuleStruct::calculateDate\(\)](#), and [AIRRAC::YieldRuleStruct::setDateRangeStart\(\)](#).

### 24.27.4 Member Data Documentation

**24.27.4.1** YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule  
[inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

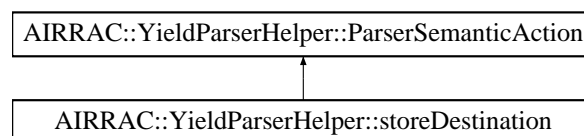
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIR-  
RAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#),  
[AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#),  
[AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#),  
[AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#),  
[AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [operator\(\)](#), [AIR-  
RAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#),  
[AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.28 AIRRAC::YieldParserHelper::storeDestination Struct Reference

#include <airrac/command/YieldParserHelper.hpp> Inheritance diagram for AIR-  
RAC::YieldParserHelper::storeDestination::



### Public Member Functions

- [storeDestination](#) (YieldRuleStruct &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

**Public Attributes**

- [YieldRuleStruct](#) & [\\_yieldRule](#)

**24.28.1 Detailed Description**

Store the parsed destination.

Definition at line 58 of file [YieldParserHelper.hpp](#).

**24.28.2 Constructor & Destructor Documentation****24.28.2.1 AIRRAC::YieldParserHelper::storeDestination::storeDestination (YieldRuleStruct & ioYieldRule)**

Actor Constructor.

Definition at line 75 of file [YieldParserHelper.cpp](#).

**24.28.3 Member Function Documentation****24.28.3.1 void AIRRAC::YieldParserHelper::storeDestination::operator() (std::vector< char > iChar, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const**

Actor Function (functor).

Definition at line 80 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), and [AIRRAC::YieldRuleStruct::setDestination\(\)](#).

**24.28.4 Member Data Documentation****24.28.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]**

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

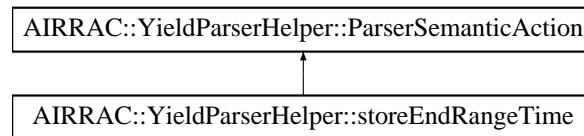
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.29 AIRRAC::YieldParserHelper::storeEndRangeTime Struct Reference

#include <airrac/command/YieldParserHelper.hpp> Inheritance diagram for AIRRAC::YieldParserHelper::storeEndRangeTime::



### Public Member Functions

- [storeEndRangeTime](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [YieldRuleStruct](#) & [\\_yieldRule](#)

#### 24.29.1 Detailed Description

Store the parsed end start range time.

Definition at line 108 of file [YieldParserHelper.hpp](#).

#### 24.29.2 Constructor & Destructor Documentation

##### 24.29.2.1 AIRRAC::YieldParserHelper::storeEndRangeTime::storeEndRangeTime (YieldRuleStruct & *ioYieldRule*)

Actor Constructor.

Definition at line 168 of file [YieldParserHelper.cpp](#).

#### 24.29.3 Member Function Documentation

##### 24.29.3.1 void AIRRAC::YieldParserHelper::storeEndRangeTime::operator() (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

Actor Function (functor).

Definition at line 173 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldRuleStruct::\\_itSeconds](#), [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), [AIRRAC::YieldRuleStruct::calculateTime\(\)](#), and [AIRRAC::YieldRuleStruct::setTimeRangeEnd\(\)](#).

## 24.29.4 Member Data Documentation

### 24.29.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

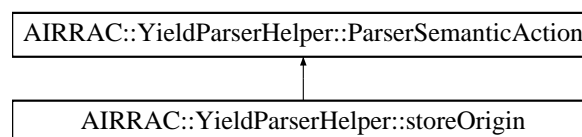
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.30 AIRRAC::YieldParserHelper::storeOrigin Struct Reference

`#include <airrac/command/YieldParserHelper.hpp>`Inheritance diagram for AIRRAC::YieldParserHelper::storeOrigin:



### Public Member Functions

- [storeOrigin](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [YieldRuleStruct](#) & [\\_yieldRule](#)

### 24.30.1 Detailed Description

Store the parsed origin.

Definition at line 48 of file [YieldParserHelper.hpp](#).

## 24.30.2 Constructor & Destructor Documentation

### 24.30.2.1 AIRRAC::YieldParserHelper::storeOrigin::storeOrigin (YieldRuleStruct & *ioYieldRule*)

Actor Constructor.

Definition at line 59 of file [YieldParserHelper.cpp](#).

## 24.30.3 Member Function Documentation

### 24.30.3.1 void AIRRAC::YieldParserHelper::storeOrigin::operator() (std::vector< char > *iChar*, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

Actor Function (functor).

Definition at line 64 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), and [AIRRAC::YieldRuleStruct::setOrigin\(\)](#).

## 24.30.4 Member Data Documentation

### 24.30.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

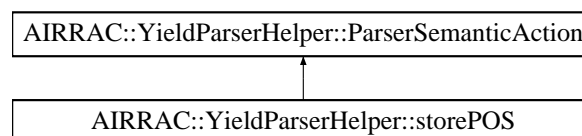
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.31 AIRRAC::YieldParserHelper::storePOS Struct Reference

#include <airrac/command/YieldParserHelper.hpp> Inheritance diagram for AIRRAC::YieldParserHelper::storePOS:



**Public Member Functions**

- [storePOS](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

**Public Attributes**

- [YieldRuleStruct](#) & [\\_yieldRule](#)

**24.31.1 Detailed Description**

Store the parsed customer point\_of\_sale.

Definition at line 118 of file [YieldParserHelper.hpp](#).

**24.31.2 Constructor & Destructor Documentation****24.31.2.1 AIRRAC::YieldParserHelper::storePOS::storePOS (YieldRuleStruct & ioYieldRule)**

Actor Constructor.

Definition at line 186 of file [YieldParserHelper.cpp](#).

**24.31.3 Member Function Documentation****24.31.3.1 void AIRRAC::YieldParserHelper::storePOS::operator() (std::vector< char > iChar, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const**

Actor Function (functor).

Definition at line 191 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), [AIRRAC::YieldRuleStruct::getDestination\(\)](#), [AIRRAC::YieldRuleStruct::getOrigin\(\)](#), and [AIRRAC::YieldRuleStruct::setPOS\(\)](#).

**24.31.4 Member Data Documentation****24.31.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]**

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#).



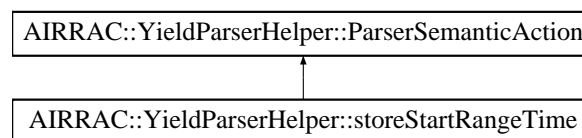
[AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.32 AIRRAC::YieldParserHelper::storeStartRangeTime Struct Reference

#include <[airrac/command/YieldParserHelper.hpp](#)>Inheritance diagram for AIRRAC::YieldParserHelper::storeStartRangeTime::



### Public Member Functions

- [storeStartRangeTime](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [YieldRuleStruct](#) & [\\_yieldRule](#)

### 24.32.1 Detailed Description

Store the parsed start range time.

Definition at line 98 of file [YieldParserHelper.hpp](#).

### 24.32.2 Constructor & Destructor Documentation

#### 24.32.2.1 AIRRAC::YieldParserHelper::storeStartRangeTime::storeStartRangeTime (YieldRuleStruct & *ioYieldRule*)

Actor Constructor.

Definition at line 150 of file [YieldParserHelper.cpp](#).

### 24.32.3 Member Function Documentation

#### 24.32.3.1 void AIRRAC::YieldParserHelper::storeStartRangeTime::operator() (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

Actor Function (functor).

Definition at line 155 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldRuleStruct::\\_itSeconds](#), [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), [AIRRAC::YieldRuleStruct::calculateTime\(\)](#), and [AIRRAC::YieldRuleStruct::setTimeRangeStart\(\)](#).

#### 24.32.4 Member Data Documentation

##### 24.32.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

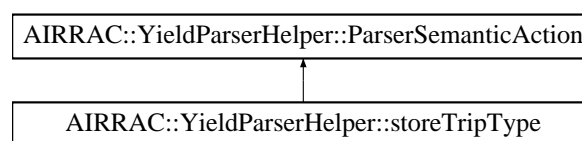
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

#### 24.33 AIRRAC::YieldParserHelper::storeTripType Struct Reference

`#include <airrac/command/YieldParserHelper.hpp>`Inheritance diagram for AIRRAC::YieldParserHelper::storeTripType:



##### Public Member Functions

- [storeTripType](#) ([YieldRuleStruct](#) &)
- [void operator\(\)](#) ([std::vector< char >](#), [boost::spirit::qi::unused\\_type](#), [boost::spirit::qi::unused\\_type](#)) const

##### Public Attributes

- [YieldRuleStruct](#) & [\\_yieldRule](#)

### 24.33.1 Detailed Description

Store the parsed customer trip type.

Definition at line 68 of file [YieldParserHelper.hpp](#).

### 24.33.2 Constructor & Destructor Documentation

#### 24.33.2.1 AIRRAC::YieldParserHelper::storeTripType::storeTripType (YieldRuleStruct & ioYieldRule)

Actor Constructor.

Definition at line 91 of file [YieldParserHelper.cpp](#).

### 24.33.3 Member Function Documentation

#### 24.33.3.1 void AIRRAC::YieldParserHelper::storeTripType::operator() (std::vector< char > iChar, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

Actor Function (functor).

Definition at line 96 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), and [AIRRAC::YieldRuleStruct::setTripType\(\)](#).

### 24.33.4 Member Data Documentation

#### 24.33.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

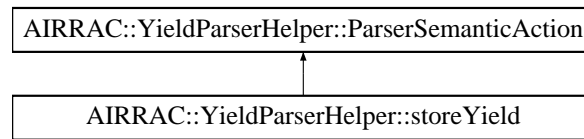
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.34 AIRRAC::YieldParserHelper::storeYield Struct Reference

`#include <airrac/command/YieldParserHelper.hpp>`Inheritance diagram for AIRRAC::YieldParserHelper::storeYield::



## Public Member Functions

- [storeYield](#) ([YieldRuleStruct](#) &)
- [void operator\(\)](#) (double, [boost::spirit::qi::unused\\_type](#), [boost::spirit::qi::unused\\_type](#)) const

## Public Attributes

- [YieldRuleStruct](#) & [\\_yieldRule](#)

### 24.34.1 Detailed Description

Store the parsed yield value.

Definition at line 148 of file [YieldParserHelper.hpp](#).

### 24.34.2 Constructor & Destructor Documentation

#### 24.34.2.1 AIRRAC::YieldParserHelper::storeYield::storeYield ([YieldRuleStruct](#) & *ioYieldRule*)

Actor Constructor.

Definition at line 254 of file [YieldParserHelper.cpp](#).

### 24.34.3 Member Function Documentation

#### 24.34.3.1 void AIRRAC::YieldParserHelper::storeYield::operator() (double *iYield*, [boost::spirit::qi::unused\\_type](#), [boost::spirit::qi::unused\\_type](#)) const

Actor Function (functor).

Definition at line 259 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), and [AIRRAC::YieldRuleStruct::setYield\(\)](#).

### 24.34.4 Member Data Documentation

#### 24.34.4.1 [YieldRuleStruct](#)& [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#) **[inherited]**

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#),

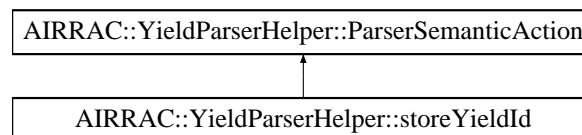
operator()), AIRRAC::YieldParserHelper::storeChannel::operator()), AIRRAC::YieldParserHelper::storeCabinCode::operator(), AIRRAC::YieldParserHelper::storePOS::operator(), AIRRAC::YieldParserHelper::storeEndRangeTime::operator(), AIRRAC::YieldParserHelper::storeStartRangeTime::operator(), AIRRAC::YieldParserHelper::storeDateRangeEnd::operator(), AIRRAC::YieldParserHelper::storeDateRangeStart::operator(), AIRRAC::YieldParserHelper::storeTripType::operator(), AIRRAC::YieldParserHelper::storeDestination::operator(), AIRRAC::YieldParserHelper::storeOrigin::operator(), and AIRRAC::YieldParserHelper::storeYieldId::operator().

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.35 AIRRAC::YieldParserHelper::storeYieldId Struct Reference

`#include <airrac/command/YieldParserHelper.hpp>`Inheritance diagram for AIRRAC::YieldParserHelper::storeYieldId::



### Public Member Functions

- [storeYieldId](#) ([YieldRuleStruct](#) &)
- [operator\(\)](#) (unsigned int, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [YieldRuleStruct](#) & [\\_yieldRule](#)

#### 24.35.1 Detailed Description

Store the parsed yield Id.

Definition at line 38 of file [YieldParserHelper.hpp](#).

#### 24.35.2 Constructor & Destructor Documentation

##### 24.35.2.1 AIRRAC::YieldParserHelper::storeYieldId::storeYieldId ([YieldRuleStruct](#) & *ioYieldRule*)

Actor Constructor.

Definition at line 34 of file [YieldParserHelper.cpp](#).

### 24.35.3 Member Function Documentation

#### 24.35.3.1 void AIRRAC::YieldParserHelper::storeYieldId::operator() (unsigned int *iYieldId*, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

Actor Function (functor).

Definition at line 39 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldRuleStruct::\\_itSeconds](#), [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#), [AIRRAC::YieldRuleStruct::clearAirlineCodeList\(\)](#), [AIRRAC::YieldRuleStruct::clearClassCodeList\(\)](#), [AIRRAC::YieldRuleStruct::setAirlineCode\(\)](#), [AIRRAC::YieldRuleStruct::setClassCode\(\)](#), and [AIRRAC::YieldRuleStruct::setYieldID\(\)](#).

### 24.35.4 Member Data Documentation

#### 24.35.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

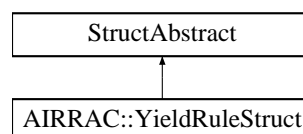
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [operator\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.36 StructAbstract Class Reference

Inheritance diagram for StructAbstract::

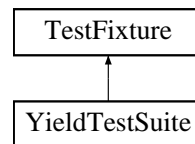


The documentation for this class was generated from the following file:

- [airrac/bom/YieldRuleStruct.hpp](#)

## 24.37 TestFixture Class Reference

Inheritance diagram for TestFixture::

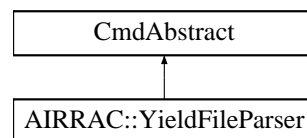


The documentation for this class was generated from the following file:

- test/airrac/[YieldTestSuite.hpp](#)

## 24.38 AIRRAC::YieldFileParser Class Reference

`#include <airrac/command/YieldParserHelper.hpp>`Inheritance diagram for AIRRAC::YieldFileParser::



### Public Member Functions

- [YieldFileParser](#) (stdair::BomRoot &, const stdair::Filename\_T &iYieldInputFilename)
- void [generateYieldStore](#) ()

### 24.38.1 Detailed Description

Class wrapping the initialisation and entry point of the parser.

The seemingly redundancy is used to force the instantiation of the actual parser, which is a templatised Boost Spirit grammar. Hence, the actual parser is instantiated within that class object code.

Definition at line 202 of file [YieldParserHelper.hpp](#).

### 24.38.2 Constructor & Destructor Documentation

#### 24.38.2.1 AIRRAC::YieldFileParser::YieldFileParser (stdair::BomRoot &, const stdair::Filename\_T &iYieldInputFilename)

Constructor.

### 24.38.3 Member Function Documentation

#### 24.38.3.1 void AIRRAC::YieldFileParser::generateYieldStore ()

Parse the yield store input file.

Definition at line 529 of file [YieldParserHelper.cpp](#).

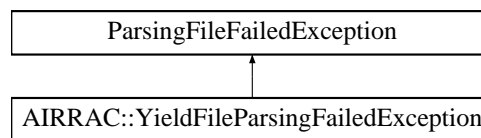
Referenced by [AIRRAC::YieldParser::generateYieldStore\(\)](#).

The documentation for this class was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 24.39 AIRRAC::YieldFileParsingFailedException Class Reference

`#include <airrac/AIRRAC_Types.hpp>` Inheritance diagram for AIRRAC::YieldFileParsingFailedException::



### Public Member Functions

- [YieldFileParsingFailedException](#) (const std::string &iWhat)

#### 24.39.1 Detailed Description

Definition at line 68 of file [AIRRAC\\_Types.hpp](#).

#### 24.39.2 Constructor & Destructor Documentation

##### 24.39.2.1 AIRRAC::YieldFileParsingFailedException::YieldFileParsingFailedException (const std::string &iWhat) [inline]

Constructor.

Definition at line 71 of file [AIRRAC\\_Types.hpp](#).

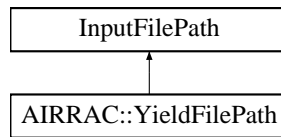
The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.40 AIRRAC::YieldFilePath Class Reference

`#include <airrac/AIRRAC_Types.hpp>` Inheritance diagram for AIRRAC::YieldFilePath::





## Public Member Functions

- [YieldFilePath](#) (const stdair::Filename\_T &iFilename)

### 24.40.1 Detailed Description

Yield input file.

Definition at line 82 of file [AIRRAC\\_Types.hpp](#).

### 24.40.2 Constructor & Destructor Documentation

#### 24.40.2.1 AIRRAC::YieldFilePath::YieldFilePath (const stdair::Filename\_T &iFilename) [inline, explicit]

Constructor.

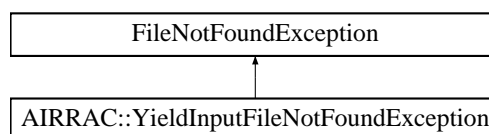
Definition at line 87 of file [AIRRAC\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.41 AIRRAC::YieldInputFileNotFoundException Class Reference

#include <airrac/AIRRAC\_Types.hpp>Inheritance diagram for AIRRAC::YieldInputFileNotFoundException::



## Public Member Functions

- [YieldInputFileNotFoundException](#) (const std::string &iWhat)

### 24.41.1 Detailed Description

Definition at line 61 of file [AIRRAC\\_Types.hpp](#).

### 24.41.2 Constructor & Destructor Documentation

#### 24.41.2.1 AIRRAC::YieldInputFileNotFoundException::YieldInputFileNotFoundException (const std::string & *iWhat*) [inline]

Constructor.

Definition at line 64 of file [AIRRAC\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 24.42 AIRRAC::YieldManager Class Reference

Command wrapping the travel request process.

```
#include <airrac/command/YieldManager.hpp>
```

### Friends

- class [AIRRAC\\_Service](#)

### 24.42.1 Detailed Description

Command wrapping the travel request process.

Definition at line 23 of file [YieldManager.hpp](#).

### 24.42.2 Friends And Related Function Documentation

#### 24.42.2.1 friend class AIRRAC\_Service [friend]

Only the [AIRRAC\\_Service](#) may access to the methods of that class.

Definition at line 27 of file [YieldManager.hpp](#).

The documentation for this class was generated from the following files:

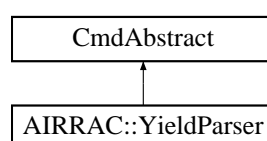
- [airrac/command/YieldManager.hpp](#)
- [airrac/command/YieldManager.cpp](#)

## 24.43 AIRRAC::YieldParser Class Reference

Class wrapping the parser entry point.

```
#include <airrac/command/YieldParser.hpp>
```

Inheritance diagram for AIRRAC::YieldParser::



### Static Public Member Functions

- static void [generateYieldStore](#) (const [YieldFilePath](#) &, stdair::BomRoot &)

#### 24.43.1 Detailed Description

Class wrapping the parser entry point.

Definition at line 25 of file [YieldParser.hpp](#).

#### 24.43.2 Member Function Documentation

##### 24.43.2.1 void AIRRAC::YieldParser::generateYieldStore (const YieldFilePath & *iYieldFilename*, stdair::BomRoot & *ioBomRoot*) [static]

Parse the CSV file describing an airline yield store, and generates the corresponding data model in memory. It can then be used, for instance in a simulator.

#### Parameters:

- const* [YieldFilePath](#)& The file-name of the CSV-formatted yield input file.  
*stdair::BomRoot*& Root of the BOM tree.

Definition at line 16 of file [YieldParser.cpp](#).

References [AIRRAC::YieldFileParser::generateYieldStore\(\)](#).

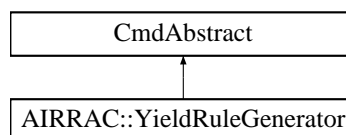
Referenced by [AIRRAC::AIRRAC\\_Service::parseAndLoad\(\)](#).

The documentation for this class was generated from the following files:

- [airrac/command/YieldParser.hpp](#)
- [airrac/command/YieldParser.cpp](#)

## 24.44 AIRRAC::YieldRuleGenerator Class Reference

`#include <airrac/command/YieldRuleGenerator.hpp>`Inheritance diagram for AIRRAC::YieldRuleGenerator::



### Friends

- class [YieldFileParser](#)
- struct [YieldParserHelper::doEndYield](#)
- class [YieldParser](#)

### 24.44.1 Detailed Description

Class handling the generation / instantiation of the Yield BOM.

Definition at line 32 of file [YieldRuleGenerator.hpp](#).

### 24.44.2 Friends And Related Function Documentation

#### 24.44.2.1 friend class YieldFileParser [friend]

Definition at line 36 of file [YieldRuleGenerator.hpp](#).

#### 24.44.2.2 friend struct YieldParserHelper::doEndYield [friend]

Definition at line 37 of file [YieldRuleGenerator.hpp](#).

#### 24.44.2.3 friend class YieldParser [friend]

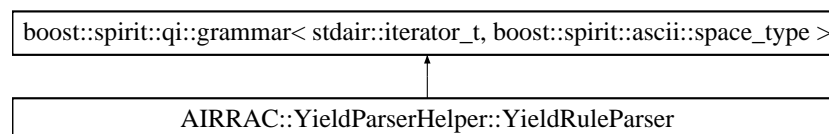
Definition at line 38 of file [YieldRuleGenerator.hpp](#).

The documentation for this class was generated from the following files:

- [airrac/command/YieldRuleGenerator.hpp](#)
- [airrac/command/YieldRuleGenerator.cpp](#)

## 24.45 AIRRAC::YieldParserHelper::YieldRuleParser Struct Reference

Inheritance diagram for AIRRAC::YieldParserHelper::YieldRuleParser::



### Public Member Functions

- [YieldRuleParser](#) (stdair::BomRoot &ioBomRoot, [YieldRuleStruct](#) &ioYieldRule)

### Public Attributes

- boost::spirit::qi::rule< stdair::iterator\_t, boost::spirit::ascii::space\_type > [start](#)
- boost::spirit::qi::rule< stdair::iterator\_t, boost::spirit::ascii::space\_type > [comments](#)
- boost::spirit::qi::rule< stdair::iterator\_t, boost::spirit::ascii::space\_type > [yield\\_rule](#)
- boost::spirit::qi::rule< stdair::iterator\_t, boost::spirit::ascii::space\_type > [yield\\_id](#)

- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [origin](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [destination](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [tripType](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [dateRangeStart](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [dateRangeEnd](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [date](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [timeRangeStart](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [timeRangeEnd](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [time](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [point\\_of\\_sale](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [cabinCode](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [channel](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [yield](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [segment](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [yield\\_rule\\_end](#)
- `stdair::BomRoot &` [\\_bomRoot](#)
- [YieldRuleStruct](#) & [\\_yieldRule](#)

### 24.45.1 Detailed Description

Yields: yieldID; OriginCity; DestinationCity; DateRangeStart; DateRangeEnd; DepartureTimeRangeStart; DepartureTimeRangeEnd; Yield; AirlineCode; Class

1; LHR; JFK; 2008-06-01; 2009-12-31; 00:00; 23:59; 4200.0; BA; A;

YieldID (Integer) OriginCity (3-char airport code) DestinationCity (3-char airport code) DateRangeStart (yyyy-mm-dd) DateRangeEnd (yyyy-mm-dd) DepartureTimeRangeStart (hh:mm) DepartureTimeRangeEnd (hh:mm) Yield (Double) AirlineCodeList (List of 2-char airline code) ClassList (List of 1-char class code) Grammar for the Yield-Rule parser.

Definition at line 387 of file [YieldParserHelper.cpp](#).

### 24.45.2 Constructor & Destructor Documentation

#### 24.45.2.1 AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser (stdair::BomRoot & ioBomRoot, YieldRuleStruct & ioYieldRule) [inline]

Definition at line 391 of file [YieldParserHelper.cpp](#).

References [\\_bomRoot](#), [AIRRAC::YieldRuleStruct::\\_itDay](#), [AIRRAC::YieldRuleStruct::\\_itHours](#), [AIRRAC::YieldRuleStruct::\\_itMinutes](#), [AIRRAC::YieldRuleStruct::\\_itMonth](#), [AIRRAC::YieldRuleStruct::\\_itSeconds](#), [AIRRAC::YieldRuleStruct::\\_itYear](#), [\\_yieldRule](#), [cabinCode](#), [channel](#), [comments](#), [date](#), [dateRangeEnd](#), [dateRangeStart](#), [AIRRAC::YieldParserHelper::day\\_p](#), [destination](#), [AIRRAC::YieldParserHelper::hour\\_p](#), [AIRRAC::YieldParserHelper::minute\\_p](#), [AIRRAC::YieldParserHelper::month\\_p](#), [origin](#), [point\\_of\\_sale](#), [AIRRAC::YieldParserHelper::second\\_p](#), [segment](#), [start](#), [time](#), [timeRangeEnd](#), [timeRangeStart](#), [tripType](#), [AIRRAC::YieldParserHelper::uint1\\_4\\_p](#), [AIRRAC::YieldParserHelper::year\\_p](#), [yield](#), [yield\\_id](#), [yield\\_rule](#), and [yield\\_rule\\_end](#).

### 24.45.3 Member Data Documentation

#### 24.45.3.1 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>` `AIRRAC::YieldParserHelper::YieldRuleParser::start`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

#### 24.45.3.2 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>` `AIRRAC::YieldParserHelper::YieldRuleParser::comments`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

#### 24.45.3.3 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>` `AIRRAC::YieldParserHelper::YieldRuleParser::yield_rule`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

#### 24.45.3.4 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>` `AIRRAC::YieldParserHelper::YieldRuleParser::yield_id`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

#### 24.45.3.5 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>` `AIRRAC::YieldParserHelper::YieldRuleParser::origin`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

#### 24.45.3.6 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>` `AIRRAC::YieldParserHelper::YieldRuleParser::destination`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.7** `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`  
`AIRRAC::YieldParserHelper::YieldRuleParser::tripType`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.8** `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`  
`AIRRAC::YieldParserHelper::YieldRuleParser::dateRangeStart`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.9** `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`  
`AIRRAC::YieldParserHelper::YieldRuleParser::dateRangeEnd`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.10** `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`  
`AIRRAC::YieldParserHelper::YieldRuleParser::date`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.11** `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`  
`AIRRAC::YieldParserHelper::YieldRuleParser::timeRangeStart`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.12** `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`  
`AIRRAC::YieldParserHelper::YieldRuleParser::timeRangeEnd`

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.13 boost::spirit::qi::rule<stdair::iterator\_t, boost::spirit::ascii::space\_type>  
AIRRAC::YieldParserHelper::YieldRuleParser::time**

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.14 boost::spirit::qi::rule<stdair::iterator\_t, boost::spirit::ascii::space\_type>  
AIRRAC::YieldParserHelper::YieldRuleParser::point\_of\_sale**

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.15 boost::spirit::qi::rule<stdair::iterator\_t, boost::spirit::ascii::space\_type>  
AIRRAC::YieldParserHelper::YieldRuleParser::cabinCode**

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.16 boost::spirit::qi::rule<stdair::iterator\_t, boost::spirit::ascii::space\_type>  
AIRRAC::YieldParserHelper::YieldRuleParser::channel**

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.17 boost::spirit::qi::rule<stdair::iterator\_t, boost::spirit::ascii::space\_type>  
AIRRAC::YieldParserHelper::YieldRuleParser::yield**

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

**24.45.3.18 boost::spirit::qi::rule<stdair::iterator\_t, boost::spirit::ascii::space\_type>  
AIRRAC::YieldParserHelper::YieldRuleParser::segment**

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).



### 24.45.3.19 boost::spirit::qi::rule<stdair::iterator\_t, boost::spirit::ascii::space\_type> AIRRAC::YieldParserHelper::YieldRuleParser::yield\_rule\_end

Definition at line 487 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

### 24.45.3.20 stdair::BomRoot& AIRRAC::YieldParserHelper::YieldRuleParser::\_bomRoot

Definition at line 493 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

### 24.45.3.21 YieldRuleStruct& AIRRAC::YieldParserHelper::YieldRuleParser::\_yieldRule

Definition at line 494 of file [YieldParserHelper.cpp](#).

Referenced by [YieldRuleParser\(\)](#).

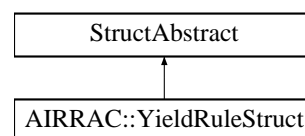
The documentation for this struct was generated from the following file:

- [airrac/command/YieldParserHelper.cpp](#)

## 24.46 AIRRAC::YieldRuleStruct Struct Reference

Utility Structure for the parsing of Flight-Date structures.

#include <airrac/bom/YieldRuleStruct.hpp> Inheritance diagram for AIRRAC::YieldRuleStruct:



### Public Member Functions

- [YieldRuleStruct \(\)](#)
- [~YieldRuleStruct \(\)](#)
- [AIRRAC::YieldID\\_T getYieldID \(\) const](#)
- [stdair::AirportCode\\_T getOrigin \(\) const](#)
- [stdair::AirportCode\\_T getDestination \(\) const](#)
- [stdair::TripType\\_T getTripType \(\) const](#)
- [stdair::Date\\_T getDateRangeStart \(\) const](#)
- [stdair::Date\\_T getDateRangeEnd \(\) const](#)
- [stdair::Duration\\_T getTimeRangeStart \(\) const](#)
- [stdair::Duration\\_T getTimeRangeEnd \(\) const](#)

- stdair::CabinCode\_T [getCabinCode](#) () const
- const stdair::CityCode\_T [getPOS](#) () const
- stdair::ChannelLabel\_T [getChannel](#) () const
- stdair::YieldValue\_T [getYield](#) () const
- stdair::AirlineCode\_T [getAirlineCode](#) () const
- stdair::ClassCode\_T [getClassCode](#) () const
- const unsigned int [getAirlineListSize](#) () const
- const unsigned int [getClassCodeListSize](#) () const
- stdair::AirlineCodeList\_T [getAirlineList](#) () const
- stdair::ClassList\_StringList\_T [getClassCodeList](#) () const
- stdair::Date\_T [calculateDate](#) () const
- stdair::Duration\_T [calculateTime](#) () const
- const std::string [describe](#) () const
- void [setYieldID](#) (const AIRRAC::YieldID\_T iYieldID)
- void [setOrigin](#) (const stdair::AirportCode\_T &iOrigin)
- void [setDestination](#) (const stdair::AirportCode\_T &iDestination)
- void [setTripType](#) (const stdair::TripType\_T &iTripType)
- void [setDateRangeStart](#) (const stdair::Date\_T &iDateRangeStart)
- void [setDateRangeEnd](#) (const stdair::Date\_T &iDateRangeEnd)
- void [setTimeRangeStart](#) (const stdair::Duration\_T &iTimeRangeStart)
- void [setTimeRangeEnd](#) (const stdair::Duration\_T &iTimeRangeEnd)
- void [setCabinCode](#) (const stdair::CabinCode\_T &iCabinCode)
- void [setPOS](#) (const stdair::CityCode\_T &iPOS)
- void [setChannel](#) (const stdair::ChannelLabel\_T &iChannel)
- void [setYield](#) (const stdair::YieldValue\_T &iYield)
- void [setAirlineCode](#) (const stdair::AirlineCode\_T &iAirlineCode)
- void [setClassCode](#) (const stdair::ClassCode\_T &iClassCode)
- void [clearAirlineCodeList](#) ()
- void [clearClassCodeList](#) ()
- void [addAirlineCode](#) (const stdair::AirlineCode\_T &iAirlineCode)
- void [addClassCode](#) (const stdair::ClassCode\_T &iClassCode)

### Public Attributes

- stdair::year\_t [\\_itYear](#)
- stdair::month\_t [\\_itMonth](#)
- stdair::day\_t [\\_itDay](#)
- stdair::hour\_t [\\_itHours](#)
- stdair::minute\_t [\\_itMinutes](#)
- stdair::second\_t [\\_itSeconds](#)

#### 24.46.1 Detailed Description

Utility Structure for the parsing of Flight-Date structures.

Definition at line 24 of file [YieldRuleStruct.hpp](#).

## 24.46.2 Constructor & Destructor Documentation

### 24.46.2.1 AIRRAC::YieldRuleStruct::YieldRuleStruct ()

Constructor.

Definition at line 17 of file [YieldRuleStruct.cpp](#).

### 24.46.2.2 AIRRAC::YieldRuleStruct::~~YieldRuleStruct ()

Destructor.

Definition at line 34 of file [YieldRuleStruct.cpp](#).

## 24.46.3 Member Function Documentation

### 24.46.3.1 AIRRAC::YieldID\_T AIRRAC::YieldRuleStruct::getYieldID () const [inline]

Get the yield ID.

Definition at line 40 of file [YieldRuleStruct.hpp](#).

### 24.46.3.2 stdair::AirportCode\_T AIRRAC::YieldRuleStruct::getOrigin () const [inline]

Get the origin.

Definition at line 45 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storePOS::operator\(\)\(\)](#).

### 24.46.3.3 stdair::AirportCode\_T AIRRAC::YieldRuleStruct::getDestination () const [inline]

Get the destination.

Definition at line 50 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storePOS::operator\(\)\(\)](#).

### 24.46.3.4 stdair::TripType\_T AIRRAC::YieldRuleStruct::getTripType () const [inline]

Get the trip type.

Definition at line 55 of file [YieldRuleStruct.hpp](#).

### 24.46.3.5 stdair::Date\_T AIRRAC::YieldRuleStruct::getDateRangeStart () const [inline]

Get the date range start.

Definition at line 60 of file [YieldRuleStruct.hpp](#).

### 24.46.3.6 stdair::Date\_T AIRRAC::YieldRuleStruct::getDateRangeEnd () const [inline]

Get the date range end.

Definition at line 65 of file [YieldRuleStruct.hpp](#).

**24.46.3.7** `stdair::Duration_T AIRRAC::YieldRuleStruct::getTimeRangeStart () const [inline]`

Get the time range start.

Definition at line 70 of file [YieldRuleStruct.hpp](#).

**24.46.3.8** `stdair::Duration_T AIRRAC::YieldRuleStruct::getTimeRangeEnd () const [inline]`

Get the time range end.

Definition at line 75 of file [YieldRuleStruct.hpp](#).

**24.46.3.9** `stdair::CabinCode_T AIRRAC::YieldRuleStruct::getCabinCode () const [inline]`

Get the cabin code.

Definition at line 80 of file [YieldRuleStruct.hpp](#).

**24.46.3.10** `const stdair::CityCode_T AIRRAC::YieldRuleStruct::getPOS () const [inline]`

Get the point-of-sale.

Definition at line 85 of file [YieldRuleStruct.hpp](#).

**24.46.3.11** `stdair::ChannelLabel_T AIRRAC::YieldRuleStruct::getChannel () const [inline]`

Get the channel.

Definition at line 90 of file [YieldRuleStruct.hpp](#).

**24.46.3.12** `stdair::YieldValue_T AIRRAC::YieldRuleStruct::getYield () const [inline]`

Get the yield.

Definition at line 95 of file [YieldRuleStruct.hpp](#).

**24.46.3.13** `stdair::AirlineCode_T AIRRAC::YieldRuleStruct::getAirlineCode () const [inline]`

Get the airline code.

Definition at line 100 of file [YieldRuleStruct.hpp](#).

**24.46.3.14** `stdair::ClassCode_T AIRRAC::YieldRuleStruct::getClassCode () const [inline]`

Get the class code.

Definition at line 105 of file [YieldRuleStruct.hpp](#).

**24.46.3.15** `const unsigned int AIRRAC::YieldRuleStruct::getAirlineListSize () const` `[inline]`

Get the size of the airline code list.

Definition at line 110 of file [YieldRuleStruct.hpp](#).**24.46.3.16** `const unsigned int AIRRAC::YieldRuleStruct::getClassCodeListSize () const`  
`[inline]`

Get the size of the class code list.

Definition at line 115 of file [YieldRuleStruct.hpp](#).**24.46.3.17** `stdair::AirlineCodeList_T AIRRAC::YieldRuleStruct::getAirlineList () const`  
`[inline]`

Get the airline code list.

Definition at line 120 of file [YieldRuleStruct.hpp](#).**24.46.3.18** `stdair::ClassList_StringList_T AIRRAC::YieldRuleStruct::getClassCodeList () const`  
`[inline]`

Get the class code list.

Definition at line 125 of file [YieldRuleStruct.hpp](#).**24.46.3.19** `stdair::Date_T AIRRAC::YieldRuleStruct::calculateDate () const`

Calculate the date from the staging details.

Definition at line 38 of file [YieldRuleStruct.cpp](#).References [\\_itDay](#), [\\_itMonth](#), and [\\_itYear](#).Referenced by [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#).**24.46.3.20** `stdair::Duration_T AIRRAC::YieldRuleStruct::calculateTime () const`

Calculate the time from the staging details.

Definition at line 44 of file [YieldRuleStruct.cpp](#).References [\\_itHours](#), [\\_itMinutes](#), and [\\_itSeconds](#).Referenced by [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#).**24.46.3.21** `const std::string AIRRAC::YieldRuleStruct::describe () const`

Give a description of the structure (for display purposes).

Definition at line 52 of file [YieldRuleStruct.cpp](#).Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#).

**24.46.3.22** void AIRRAC::YieldRuleStruct::setYieldID (const AIRRAC::YieldID\_T *iYieldID*)  
[inline]

Set the yield ID.

Definition at line 143 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)\(\)](#).

**24.46.3.23** void AIRRAC::YieldRuleStruct::setOrigin (const stdair::AirportCode\_T & *iOrigin*)  
[inline]

Set the origin.

Definition at line 148 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)\(\)](#).

**24.46.3.24** void AIRRAC::YieldRuleStruct::setDestination (const stdair::AirportCode\_T & *iDestination*) [inline]

Set the destination.

Definition at line 153 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeDestination::operator\(\)\(\)](#).

**24.46.3.25** void AIRRAC::YieldRuleStruct::setTripType (const stdair::TripType\_T & *iTripType*)  
[inline]

Set the trip type.

Definition at line 158 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeTripType::operator\(\)\(\)](#).

**24.46.3.26** void AIRRAC::YieldRuleStruct::setDateRangeStart (const stdair::Date\_T & *iDateRangeStart*) [inline]

Set the date range start.

Definition at line 163 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)\(\)](#).

**24.46.3.27** void AIRRAC::YieldRuleStruct::setDateRangeEnd (const stdair::Date\_T & *iDateRangeEnd*) [inline]

Set the date range end.

Definition at line 168 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)\(\)](#).

**24.46.3.28** void AIRRAC::YieldRuleStruct::setTimeRangeStart (const stdair::Duration\_T & *iTimeRangeStart*) [inline]

Set the time range start.

Definition at line 173 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#).

**24.46.3.29** void AIRRAC::YieldRuleStruct::setTimeRangeEnd (const stdair::Duration\_T & *iTimeRangeEnd*) [inline]

Set the time range end.

Definition at line 178 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#).

**24.46.3.30** void AIRRAC::YieldRuleStruct::setCabinCode (const stdair::CabinCode\_T & *iCabinCode*) [inline]

Set the cabin code.

Definition at line 183 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#).

**24.46.3.31** void AIRRAC::YieldRuleStruct::setPOS (const stdair::CityCode\_T & *iPOS*) [inline]

Set the point-of-sale.

Definition at line 188 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#).

**24.46.3.32** void AIRRAC::YieldRuleStruct::setChannel (const stdair::ChannelLabel\_T & *iChannel*) [inline]

Set the channel.

Definition at line 193 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#).

**24.46.3.33** void AIRRAC::YieldRuleStruct::setYield (const stdair::YieldValue\_T & *iYield*) [inline]

Set the yield.

Definition at line 198 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#).

**24.46.3.34** void AIRRAC::YieldRuleStruct::setAirlineCode (const stdair::AirlineCode\_T & *iAirlineCode*) [inline]

Set the airline code.

Definition at line 203 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

**24.46.3.35** void AIRRAC::YieldRuleStruct::setClassCode (const stdair::ClassCode\_T & *iClassCode*) [inline]

Set the class code.

Definition at line 208 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

**24.46.3.36** void AIRRAC::YieldRuleStruct::clearAirlineCodeList () [inline]

Empty the airline code list.

Definition at line 213 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

**24.46.3.37** void AIRRAC::YieldRuleStruct::clearClassCodeList () [inline]

Empty the class code list.

Definition at line 218 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

**24.46.3.38** void AIRRAC::YieldRuleStruct::addAirlineCode (const stdair::AirlineCode\_T & *iAirlineCode*) [inline]

Add an airline code to the list.

Definition at line 223 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#).

**24.46.3.39** void AIRRAC::YieldRuleStruct::addClassCode (const stdair::ClassCode\_T & *iClassCode*) [inline]

Add a class code to the list.

Definition at line 228 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#).



#### 24.46.4 Member Data Documentation

##### 24.46.4.1 stdair::year\_t AIRRAC::YieldRuleStruct::\_itYear

Staging Date.

Definition at line 235 of file [YieldRuleStruct.hpp](#).

Referenced by [calculateDate\(\)](#), and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

##### 24.46.4.2 stdair::month\_t AIRRAC::YieldRuleStruct::\_itMonth

Definition at line 236 of file [YieldRuleStruct.hpp](#).

Referenced by [calculateDate\(\)](#), and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

##### 24.46.4.3 stdair::day\_t AIRRAC::YieldRuleStruct::\_itDay

Definition at line 237 of file [YieldRuleStruct.hpp](#).

Referenced by [calculateDate\(\)](#), and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

##### 24.46.4.4 stdair::hour\_t AIRRAC::YieldRuleStruct::\_itHours

Staging Time.

Definition at line 241 of file [YieldRuleStruct.hpp](#).

Referenced by [calculateTime\(\)](#), and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

##### 24.46.4.5 stdair::minute\_t AIRRAC::YieldRuleStruct::\_itMinutes

Definition at line 242 of file [YieldRuleStruct.hpp](#).

Referenced by [calculateTime\(\)](#), and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

##### 24.46.4.6 stdair::second\_t AIRRAC::YieldRuleStruct::\_itSeconds

Definition at line 243 of file [YieldRuleStruct.hpp](#).

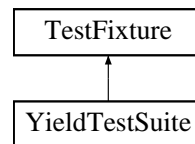
Referenced by [calculateTime\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#), and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

The documentation for this struct was generated from the following files:

- [airrac/bom/YieldRuleStruct.hpp](#)
- [airrac/bom/YieldRuleStruct.cpp](#)

## 24.47 YieldTestSuite Class Reference

#include <test/airrac/YieldTestSuite.hpp> Inheritance diagram for YieldTestSuite::



### Public Member Functions

- void [simpleYield](#) ()
- [YieldTestSuite](#) ()

### Protected Attributes

- std::stringstream [\\_describeKey](#)

#### 24.47.1 Detailed Description

Utility class for CPPUnit-based testing.

Definition at line 7 of file [YieldTestSuite.hpp](#).

#### 24.47.2 Constructor & Destructor Documentation

##### 24.47.2.1 YieldTestSuite::YieldTestSuite ()

Test some error detection functionalities. Constructor.

#### 24.47.3 Member Function Documentation

##### 24.47.3.1 void YieldTestSuite::simpleYield ()

Test a simple yield functionality.

#### 24.47.4 Member Data Documentation

##### 24.47.4.1 std::stringstream YieldTestSuite::\_describeKey [protected]

Definition at line 28 of file [YieldTestSuite.hpp](#).

The documentation for this class was generated from the following file:

- test/airrac/[YieldTestSuite.hpp](#)

## 25 File Documentation

### 25.1 airrac/AIRRAC\_Service.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_service_types.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
#include <airrac/AIRRAC_Types.hpp>
```

#### Classes

- class [AIRRAC::AIRRAC\\_Service](#)  
*Interface for the [AIRRAC](#) Services.*

#### Namespaces

- namespace [stdair](#)  
*Forward declarations.*
- namespace [AIRRAC](#)

## 25.2 AIRRAC\_Service.hpp

```

00001 #ifndef __AIRRAC_SVC_AIRRAC_SERVICE_HPP
00002 #define __AIRRAC_SVC_AIRRAC_SERVICE_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/stdair_service_types.hpp>
00010 #include <stdair/bom/TravelSolutionTypes.hpp>
00011 // AirRAC
00012 #include <airrac/AIRRAC_Types.hpp>
00013
00014 // Forward declarations.
00015 namespace stdair {
00016     class STDAIR_Service;
00017     class BomRoot;
00018     struct BasLogParams;
00019     struct BasDBParams;
00020 }
00021
00022 namespace AIRRAC {
00023
00024     class AIRRAC_ServiceContext;
00025
00026     class AIRRAC_Service {
00027     public:
00028         // ////////////////////////////////// Constructors and Destructors //////////////////////////////////
00029
00030         AIRRAC_Service (const stdair::BasLogParams&);
00031
00032         AIRRAC_Service (const stdair::BasLogParams&, const stdair::BasDBParams&);
00033
00034         AIRRAC_Service (stdair::STDAIR_ServicePtr_T ioSTDAIR_ServicePtr);
00035
00036         void parseAndLoad (const YieldFilePath& iYieldFilename);
00037
00038         ~AIRRAC_Service();
00039
00040     public:
00041         // ////////////////////////////////// Business Methods //////////////////////////////////
00042
00043         void calculateYields (stdair::TravelSolutionList_T&);
00044
00045         void updateYields (stdair::BomRoot&);
00046
00047         void buildSampleBom();
00048
00049         void clonePersistentBom();
00050
00051         void buildComplementaryLinks (stdair::BomRoot&);
00052
00053         void buildSampleTravelSolutions (stdair::TravelSolutionList_T&);
00054
00055     public:
00056         // ////////////////////////////////// Display support methods //////////////////////////////////
00057
00058         std::string csvDisplay() const;
00059
00060         std::string csvDisplay (const stdair::TravelSolutionList_T&) const;
00061
00062     private:
00063         // ////////////////////////////////// Construction and Destruction helper methods //////////////////////////////////

```

```
00172     AIRRAC_Service();
00173
00177     AIRRAC_Service (const AIRRAC_Service&);
00178
00183     void initServiceContext();
00184
00194     stdair::STDAIR_ServicePtr_T initStdAirService (const stdair::BasLogParams&,
00195                                                    const stdair::BasDBParams&);
00196
00205     stdair::STDAIR_ServicePtr_T initStdAirService (const stdair::BasLogParams&);
00206
00215     void addStdAirService (stdair::STDAIR_ServicePtr_T,
00216                           const bool iOwnStdairService);
00217
00224     void initAirracService();
00225
00234     void initAirracService (const YieldFilePath& iYieldFilename);
00235
00239     void finalise();
00240
00241
00242     private:
00243         // ////////// Service Context //////////
00247         AIRRAC_ServiceContext* _airracServiceContext;
00248     };
00249 }
00250 #endif // __AIRRAC_SVC_AIRRAC_SERVICE_HPP
```

## 25.3 airrac/AIRRAC\_Types.hpp File Reference

```
#include <vector>
#include <string>
#include <boost/shared_ptr.hpp>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/stdair_file.hpp>
```

### Classes

- class [AIRRAC::AirportPairNotFoundException](#)
- class [AIRRAC::PosOrChannelNotFoundException](#)
- class [AIRRAC::FlightDateNotFoundException](#)
- class [AIRRAC::FlightTimeNotFoundException](#)
- class [AIRRAC::FeaturesNotFoundException](#)
- class [AIRRAC::AirlineNotFoundException](#)
- class [AIRRAC::YieldInputFileNotFoundException](#)
- class [AIRRAC::YieldFileParsingFailedException](#)
- class [AIRRAC::QuotingException](#)
- class [AIRRAC::YieldFilePath](#)

### Namespaces

- namespace [AIRRAC](#)

### Typedefs

- typedef boost::shared\_ptr< AIRRAC\_Service > [AIRRAC::AIRRAC\\_ServicePtr\\_T](#)
- typedef unsigned int [AIRRAC::YieldID\\_T](#)

## 25.4 AIRRAC\_Types.hpp

```

00001 #ifndef __AIRRAC_AIRRAC_TYPES_HPP
00002 #define __AIRRAC_AIRRAC_TYPES_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <vector>
00009 #include <string>
00010 // Boost
00011 #include <boost/shared_ptr.hpp>
00012 // StdAir
00013 #include <stdair/stdair_exceptions.hpp>
00014 #include <stdair/stdair_file.hpp>
00015
00016 namespace AIRRAC {
00017
00018     // /////////////////////////////////// Exceptions ///////////////////////////////////
00019     class AirportPairNotFoundException : public stdair::ObjectNotFoundException {
00020     public:
00022         AirportPairNotFoundException (const std::string& iWhat)
00023             : stdair::ObjectNotFoundException (iWhat) {}
00024     };
00025
00026     class PosOrChannelNotFoundException : public stdair::ObjectNotFoundException {
00027     public:
00029         PosOrChannelNotFoundException (const std::string& iWhat)
00030             : stdair::ObjectNotFoundException (iWhat) {}
00031     };
00032
00033     class FlightDateNotFoundException : public stdair::ObjectNotFoundException {
00034     public:
00036         FlightDateNotFoundException (const std::string& iWhat)
00037             : stdair::ObjectNotFoundException (iWhat) {}
00038     };
00039
00040     class FlightTimeNotFoundException : public stdair::ObjectNotFoundException {
00041     public:
00043         FlightTimeNotFoundException (const std::string& iWhat)
00044             : stdair::ObjectNotFoundException (iWhat) {}
00045     };
00046
00047     class FeaturesNotFoundException : public stdair::ObjectNotFoundException {
00048     public:
00050         FeaturesNotFoundException (const std::string& iWhat)
00051             : stdair::ObjectNotFoundException (iWhat) {}
00052     };
00053
00054     class AirlineNotFoundException : public stdair::ObjectNotFoundException {
00055     public:
00057         AirlineNotFoundException (const std::string& iWhat)
00058             : stdair::ObjectNotFoundException (iWhat) {}
00059     };
00060
00061     class YieldInputFileNotFoundException : public stdair::FileNotFoundException {
00062     public:
00064         YieldInputFileNotFoundException (const std::string& iWhat)
00065             : stdair::FileNotFoundException (iWhat) {}
00066     };
00067
00068     class YieldFileParsingFailedException : public stdair::
ParsingFileFailedException {
00069     public:
00071         YieldFileParsingFailedException (const std::string& iWhat)
00072             : stdair::ParsingFileFailedException (iWhat) {}

```

```
00073     };
00074
00075     class QuotingException : public stdair::RootException {
00076     };
00077
00078     // ////////// Files //////////
00082     class YieldFilePath : public stdair::InputFilePath {
00083     public:
00087         explicit YieldFilePath (const stdair::Filename_T& iFilename)
00088             : stdair::InputFilePath (iFilename) {}
00089     };
00090
00091     // ////////// Type definitions specific to AirRAC //////////
00095     class AIRRAC_Service;
00096     typedef boost::shared_ptr<AIRRAC_Service> AIRRAC_ServicePtr_T;
00097
00098
00102     typedef unsigned int YieldID_T;
00103 }
00104 #endif // __AIRRAC_AIRRAC_TYPES_HPP
00105
```



## 25.5 airrac/basic/BasConst.cpp File Reference

```
#include <airrac/basic/BasConst_General.hpp>
#include <airrac/basic/BasConst_AIRRAC_Service.hpp>
```

### Namespaces

- namespace [AIRRAC](#)

### Variables

- const std::string [AIRRAC::DEFAULT\\_AIRLINE\\_CODE](#) = "BA"

## 25.6 BasConst.cpp

```
00001 // ////////////////////////////////////////
00002 // Import section
00003 // ////////////////////////////////////////
00004 #include <airrac/basic/BasConst_General.hpp>
00005 #include <airrac/basic/BasConst_AIRrac_Service.hpp>
00006
00007 namespace AIRrac {
00008
00010     const std::string DEFAULT_AIRLINE_CODE = "BA";
00011
00012 }
```

## 25.7 airrac/basic/BasConst\_AIRRAC\_Service.hpp File Reference

```
#include <string>
```

### Namespaces

- namespace [AIRRAC](#)

## 25.8 BasConst\_AIRAC\_Service.hpp

```
00001 #ifndef __AIRAC_BAS_BASCONST_AIRAC_SERVICE_HPP
00002 #define __AIRAC_BAS_BASCONST_AIRAC_SERVICE_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 #include <string>
00008
00009 namespace AIRAC {
00010
00012     extern const std::string DEFAULT_AIRLINE_CODE;
00013
00014 }
00015 #endif // __AIRAC_BAS_BASCONST_AIRAC_SERVICE_HPP
```

## 25.9 airrac/basic/BasConst\_General.hpp File Reference

### Namespaces

- namespace [AIRRAC](#)

## 25.10 BasConst\_General.hpp

```
00001 #ifndef __AIRRAC_BAS_BASCONST_GENERAL_HPP
00002 #define __AIRRAC_BAS_BASCONST_GENERAL_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007
00008 namespace AIRRAC {
00009
00010 }
00011 #endif // __AIRRAC_BAS_BASCONST_GENERAL_HPP
```

## 25.11 airrac/batches/airrac.cpp File Reference

```
#include <cassert>
#include <iostream>
#include <sstream>
#include <fstream>
#include <vector>
#include <list>
#include <string>
#include <boost/date_time/posix_time/posix_time.hpp>
#include <boost/date_time/gregorian/gregorian.hpp>
#include <boost/tokenizer.hpp>
#include <boost/program_options.hpp>
#include <stdair/STDAIR_Service.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/service/Logger.hpp>
#include <airrac/AIRRAC_Service.hpp>
#include <airrac/config/airrac-paths.hpp>
```

### Typedefs

- typedef std::vector< std::string > [WordList\\_T](#)

### Functions

- const std::string [K\\_AIRRAC\\_DEFAULT\\_LOG\\_FILENAME](#) ("airrac.log")
- const std::string [K\\_AIRRAC\\_DEFAULT\\_YIELD\\_INPUT\\_FILENAME](#) (STDAIR\_SAMPLE\_DIR"/yieldstore01.csv")
- template<class T >  
std::ostream & [operator<<](#) (std::ostream &os, const std::vector< T > &v)
- int [readConfiguration](#) (int argc, char \*argv[], bool &ioIsBuiltin, stdair::Filename\_T &ioYieldInputFilename, std::string &ioLogFilename)
- int [main](#) (int argc, char \*argv[])

### Variables

- const bool [K\\_AIRRAC\\_DEFAULT\\_BUILT\\_IN\\_INPUT](#) = false
- const int [K\\_AIRRAC\\_EARLY\\_RETURN\\_STATUS](#) = 99

### 25.11.1 Typedef Documentation

#### 25.11.1.1 typedef std::vector<std::string> WordList\_T

Definition at line 23 of file [airrac.cpp](#).

### 25.11.2 Function Documentation

#### 25.11.2.1 `const std::string K_AIRRAC_DEFAULT_LOG_FILENAME ("airrac.log")`

Default name and location for the log file.

Referenced by [readConfiguration\(\)](#).

#### 25.11.2.2 `const std::string K_AIRRAC_DEFAULT_YIELD_INPUT_FILENAME (STDAIR_SAMPLE_DIR"/yieldstore01.csv")`

Default name and location for the (CSV) input file.

Referenced by [readConfiguration\(\)](#).

#### 25.11.2.3 `template<class T > std::ostream& operator<< (std::ostream & os, const std::vector< T > & v) [inline]`

Definition at line 43 of file [airrac.cpp](#).

#### 25.11.2.4 `int readConfiguration (int argc, char * argv[], bool & ioIsBuiltin, stdair::Filename_T & ioYieldInputFilename, std::string & ioLogFilename)`

Read and parse the command line options.

Definition at line 50 of file [airrac.cpp](#).

References [K\\_AIRRAC\\_DEFAULT\\_BUILT\\_IN\\_INPUT](#), [K\\_AIRRAC\\_DEFAULT\\_LOG\\_FILENAME\(\)](#), [K\\_AIRRAC\\_DEFAULT\\_YIELD\\_INPUT\\_FILENAME\(\)](#), and [K\\_AIRRAC\\_EARLY\\_RETURN\\_STATUS](#).

Referenced by [main\(\)](#).

#### 25.11.2.5 `int main (int argc, char * argv[])`

Definition at line 153 of file [airrac.cpp](#).

References [AIRRAC::AIRRAC\\_Service::buildSampleBom\(\)](#), [AIRRAC::AIRRAC\\_Service::buildSampleTravelSolutions\(\)](#), [AIRRAC::AIRRAC\\_Service::csvDisplay\(\)](#), [K\\_AIRRAC\\_EARLY\\_RETURN\\_STATUS](#), [AIRRAC::AIRRAC\\_Service::parseAndLoad\(\)](#), and [readConfiguration\(\)](#).

### 25.11.3 Variable Documentation

#### 25.11.3.1 `const bool K_AIRRAC_DEFAULT_BUILT_IN_INPUT = false`

Default for the input type. It can be either built-in or provided by an input file. That latter must then be given with the -i option.



Definition at line 36 of file [airrac.cpp](#).

Referenced by [readConfiguration\(\)](#).

#### 25.11.3.2 `const int K_AIRrac_EARLY_RETURN_STATUS = 99`

Early return status (so that it can be differentiated from an error).

Definition at line 39 of file [airrac.cpp](#).

Referenced by [main\(\)](#), and [readConfiguration\(\)](#).

## 25.12 airrac.cpp

```

00001 // STL
00002 #include <cassert>
00003 #include <iostream>
00004 #include <sstream>
00005 #include <fstream>
00006 #include <vector>
00007 #include <list>
00008 #include <string>
00009 // Boost (Extended STL)
00010 #include <boost/date_time/posix_time/posix_time.hpp>
00011 #include <boost/date_time/gregorian/gregorian.hpp>
00012 #include <boost/tokenizer.hpp>
00013 #include <boost/program_options.hpp>
00014 // StdAir
00015 #include <stdair/STDAIR_Service.hpp>
00016 #include <stdair/bom/TravelSolutionStruct.hpp>
00017 #include <stdair/service/Logger.hpp>
00018 // Airrac
00019 #include <airrac/AIRAC_Service.hpp>
00020 #include <airrac/config/airrac-paths.hpp>
00021
00022 // ////////// Type definitions //////////
00023 typedef std::vector<std::string> WordList_T;
00024
00025
00026 // ////////// Constants //////////
00027
00028 const std::string K_AIRAC_DEFAULT_LOG_FILENAME ("airrac.log");
00029
00030
00031 const std::string K_AIRAC_DEFAULT_YIELD_INPUT_FILENAME (STDAIR_SAMPLE_DIR
00032                                                         "/yieldstore01.csv");
00033
00034 const bool K_AIRAC_DEFAULT_BUILT_IN_INPUT = false;
00035
00036 const int K_AIRAC_EARLY_RETURN_STATUS = 99;
00037
00038 // ////////// Parsing of Options & Configuration //////////
00039 // A helper function to simplify the main part.
00040 template<class T> std::ostream& operator<< (std::ostream& os,
00041                                           const std::vector<T>& v) {
00042     std::copy (v.begin(), v.end(), std::ostream_iterator<T> (std::cout, " "));
00043     return os;
00044 }
00045
00046 int readConfiguration (int argc, char* argv[], bool& ioIsBuiltin,
00047                       stdair::Filename_T& ioYieldInputFilename,
00048                       std::string& ioLogFilename) {
00049
00050     // Default for the built-in input
00051     ioIsBuiltin = K_AIRAC_DEFAULT_BUILT_IN_INPUT;
00052
00053     // Declare a group of options that will be allowed only on command line
00054     boost::program_options::options_description generic ("Generic options");
00055     generic.add_options()
00056         ("prefix,p", "print installation prefix")
00057         ("version,v", "print version string")
00058         ("help,h", "produce help message");
00059
00060     // Declare a group of options that will be allowed both on command
00061     // line and in config file
00062     boost::program_options::options_description config ("Configuration");
00063     config.add_options()
00064         ("builtin,b",
00065          "The sample BOM tree can be either built-in or parsed from an input file. Th
00066          at latter must then be given with the -y/--yield option")
00067         ("yield,y",

```

```

00071     boost::program_options::value< std::string >(&ioYieldInputFilename)->default
_value(K_AIRAC_DEFAULT_YIELD_INPUT_FILENAME),
00072     "(CSV) input file for the yield rules")
00073     ("log,l",
00074     boost::program_options::value< std::string >(&ioLogFilename)->default_value(
K_AIRAC_DEFAULT_LOG_FILENAME),
00075     "Filename for the logs")
00076     ;
00077
00078     // Hidden options, will be allowed both on command line and
00079     // in config file, but will not be shown to the user.
00080     boost::program_options::options_description hidden ("Hidden options");
00081     hidden.add_options()
00082         ("copyright",
00083         boost::program_options::value< std::vector<std::string> >(),
00084         "Show the copyright (license)");
00085
00086     boost::program_options::options_description cmdline_options;
00087     cmdline_options.add(generic).add(config).add(hidden);
00088
00089     boost::program_options::options_description config_file_options;
00090     config_file_options.add(config).add(hidden);
00091
00092     boost::program_options::options_description visible ("Allowed options");
00093     visible.add(generic).add(config);
00094
00095     boost::program_options::positional_options_description p;
00096     p.add ("copyright", -1);
00097
00098     boost::program_options::variables_map vm;
00099     boost::program_options::
00100         store (boost::program_options::command_line_parser (argc, argv).
00101             options (cmdline_options).positional(p).run(), vm);
00102
00103     std::ifstream ifs ("airrac.cfg");
00104     boost::program_options::store (parse_config_file (ifs, config_file_options),
00105         vm);
00106     boost::program_options::notify (vm); if (vm.count ("help")) {
00107         std::cout << visible << std::endl;
00108         return K_AIRAC_EARLY_RETURN_STATUS;
00109     }
00110
00111     if (vm.count ("version")) {
00112         std::cout << PACKAGE_NAME << ", version " << PACKAGE_VERSION << std::endl;
00113         return K_AIRAC_EARLY_RETURN_STATUS;
00114     }
00115
00116     if (vm.count ("prefix")) {
00117         std::cout << "Installation prefix: " << PREFIXDIR << std::endl;
00118         return K_AIRAC_EARLY_RETURN_STATUS;
00119     }
00120
00121     if (vm.count ("builtin")) {
00122         ioIsBuiltin = true;
00123     }
00124     const std::string isBuiltinStr = (ioIsBuiltin == true)?"yes":"no";
00125     std::cout << "The BOM should be built-in? " << isBuiltinStr << std::endl;
00126
00127     if (ioIsBuiltin == false) {
00128
00129         // The BOM tree should be built from parsing a yield (and O&D) file
00130         if (vm.count ("yield")) {
00131             ioYieldInputFilename = vm["yield"].as< std::string >();
00132             std::cout << "Input yield filename is: " << ioYieldInputFilename
00133                 << std::endl;
00134
00135         } else {

```

```

00136         // The built-in option is not selected. However, no yield file
00137         // is specified
00138         std::cerr << "Either one among the -b/--builtin and -y/--yield "
00139                 << "options must be specified" << std::endl;
00140     }
00141 }
00142
00143 if (vm.count ("log")) {
00144     ioLogFilename = vm["log"].as< std::string >();
00145     std::cout << "Log filename is: " << ioLogFilename << std::endl;
00146 }
00147
00148 return 0;
00149 }
00150
00151
00152 // ////////////////////////////////// M A I N //////////////////////////////////
00153 int main (int argc, char* argv[]) {
00154
00155     // State whether the BOM tree should be built-in or parsed from an input file
00156     bool isBuiltin;
00157
00158     // Yield input filename
00159     stdair::Filename_T lYieldInputFilename;
00160
00161     // Output log File
00162     stdair::Filename_T lLogFilename;
00163
00164     // Call the command-line option parser
00165     const int lOptionParserStatus =
00166         readConfiguration (argc, argv, isBuiltin, lYieldInputFilename, lLogFilename);
00167
00168     if (lOptionParserStatus == K_AIRAC_EARLY_RETURN_STATUS) {
00169         return 0;
00170     }
00171
00172     // Set the log parameters
00173     std::ofstream logOutputFile;
00174     // Open and clean the log outputfile
00175     logOutputFile.open (lLogFilename.c_str());
00176     logOutputFile.clear();
00177
00178     // Initialise the AirRAC service object
00179     const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);
00180
00181     AIRRAC::AIRRAC_Service airracService (lLogParams);
00182
00183     // DEBUG
00184     STDAIR_LOG_DEBUG ("Welcome to AirRAC");
00185
00186     // Build a sample list of travel solutions
00187     stdair::TravelSolutionList_T lTravelSolutionList;
00188     airracService.buildSampleTravelSolutions (lTravelSolutionList);
00189
00190     // Check whether or not a (CSV) input file should be read
00191     if (isBuiltin == true) {
00192
00193         // Build the sample BOM tree (filled with yields) for AirRAC
00194         airracService.buildSampleBom();
00195
00196     } else {
00197
00198         // Build the BOM tree from parsing a yield file
00199         AIRRAC::YieldFilePath lYieldFilePath (lYieldInputFilename);
00200         airracService.parseAndLoad (lYieldFilePath);
00201

```

```
00202     }
00203
00204     // DEBUG: Display the whole BOM tree
00205     const std::string& lBOMCSVDump = airracService.csvDisplay();
00206     STDAIR_LOG_DEBUG ("BOM tree: " << lBOMCSVDump);
00207
00208     // DEBUG: Display the travel solutions
00209     const std::string& lTSCSVDump =
00210         airracService.csvDisplay (lTravelSolutionList);
00211     STDAIR_LOG_DEBUG (lTSCSVDump);
00212
00213     // Close the Log outputFile
00214     logOutputFile.close();
00215
00216     /*
00217     Note: as that program is not intended to be run on a server in
00218     production, it is better not to catch the exceptions. When it
00219     happens (that an exception is throwned), that way we get the
00220     call stack.
00221     */
00222
00223     return 0;
00224 }
```

## 25.13 airrac/bom/YieldRuleStruct.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/service/Logger.hpp>
#include <airrac/AIRRAC_Types.hpp>
#include <airrac/bom/YieldRuleStruct.hpp>
```

### Namespaces

- namespace [AIRRAC](#)

## 25.14 YieldRuleStruct.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_General.hpp>
00009 #include <stdair/service/Logger.hpp>
00010 // AIRRAC
00011 #include <airrac/AIRRAC_Types.hpp>
00012 #include <airrac/bom/YieldRuleStruct.hpp>
00013
00014 namespace AIRRAC {
00015
00016 // //////////////////////////////////////
00017 YieldRuleStruct::YieldRuleStruct()
00018 : _yieldId(0),
00019   _origin(""),
00020   _destination(""),
00021   _dateRangeStart (stdair::DEFAULT_DATE),
00022   _dateRangeEnd (stdair::DEFAULT_DATE),
00023   _timeRangeStart (stdair::DEFAULT_EPSILON_DURATION),
00024   _timeRangeEnd (stdair::DEFAULT_EPSILON_DURATION),
00025   _yield(0),
00026   _cabinCode(""),
00027   _pos(""),
00028   _channel(""),
00029   _airlineCode(""),
00030   _classCode("") {
00031 }
00032
00033 // //////////////////////////////////////
00034 YieldRuleStruct::~YieldRuleStruct() {
00035 }
00036
00037 // //////////////////////////////////////
00038 stdair::Date_T YieldRuleStruct::calculateDate() const {
00039     _itYear.check(); _itMonth.check(); _itDay.check();
00040     return stdair::Date_T (_itYear._value, _itMonth._value, _itDay._value);
00041 }
00042
00043 // //////////////////////////////////////
00044 stdair::Duration_T YieldRuleStruct::calculateTime() const {
00045     _itHours.check(); _itMinutes.check(); _itSeconds.check();
00046     return boost::posix_time::hours (_itHours._value)
00047         + boost::posix_time::minutes (_itMinutes._value)
00048         + boost::posix_time::seconds (_itSeconds._value);
00049 }
00050
00051 // //////////////////////////////////////
00052 const std::string YieldRuleStruct::describe() const {
00053     std::ostringstream oStr;
00054     oStr << "YieldRule: " << _yieldId << ", ";
00055
00056     oStr << _origin << "-" << _destination << " ("
00057         << _pos << "), " << _channel << ", [";
00058     oStr << _dateRangeStart << "/" << _dateRangeEnd << "]" << "-" << ["
00059         << boost::posix_time::to_simple_string (_timeRangeStart) << "/"
00060         << boost::posix_time::to_simple_string (_timeRangeEnd) << "]", ";
00061
00062     oStr << _cabinCode << ", " << _yield << " EUR, ";
00063
00064     // Sanity check
00065     assert (_airlineCodeList.size() == _classCodeList.size());

```

```
00066
00067     // Browse the class-pathes
00068     unsigned short idx = 0;
00069     stdair::ClassList_StringList_T::const_iterator itClass =
00070         _classCodeList.begin();
00071     for (stdair::AirlineCodeList_T::const_iterator itAirline =
00072         _airlineCodeList.begin();
00073         itAirline != _airlineCodeList.end(); ++itAirline, ++itClass, ++idx) {
00074         if (idx != 0) {
00075             ostr << " - ";
00076         }
00077         const stdair::AirlineCode_T lAirlineCode = *itAirline;
00078         const stdair::ClassCode_T lClassCode = *itClass;
00079         ostr << lAirlineCode << " / " << lClassCode;
00080     }
00081
00082     return ostr.str();
00083 }
00084 }
```



## 25.15 airrac/bom/YieldRuleStruct.hpp File Reference

```
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/basic/BasParserHelperTypes.hpp>
#include <airrac/AIRRAC_Types.hpp>
```

### Classes

- struct [AIRRAC::YieldRuleStruct](#)  
*Utility Structure for the parsing of Flight-Date structures.*

### Namespaces

- namespace [AIRRAC](#)

## 25.16 YieldRuleStruct.hpp

```

00001 #ifndef __AIRRAC_BOM_YIELDRULESTRUCT_HPP
00002 #define __AIRRAC_BOM_YIELDRULESTRUCT_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011 #include <stdair/stdair_date_time_types.hpp>
00012 #include <stdair/stdair_demand_types.hpp>
00013 #include <stdair/stdair_inventory_types.hpp>
00014 #include <stdair/basic/StructAbstract.hpp>
00015 #include <stdair/basic/BasParserHelperTypes.hpp>
00016 // AirRAC
00017 #include <airrac/AIRRAC_Types.hpp>
00018
00019 namespace AIRRAC {
00020
00024     struct YieldRuleStruct : public stdair::StructAbstract {
00025     public:
00026         // /////////////////////////////////// Initialisation / Destruction ///////////////////////////////////
00030         YieldRuleStruct();
00031
00035         ~YieldRuleStruct();
00036
00037     public:
00038         // /////////////////////////////////// Getters ///////////////////////////////////
00040         AIRRAC::YieldID_T getYieldID () const {
00041             return _yieldId;
00042         }
00043
00045         stdair::AirportCode_T getOrigin () const {
00046             return _origin;
00047         }
00048
00050         stdair::AirportCode_T getDestination () const {
00051             return _destination;
00052         }
00053
00055         stdair::TripType_T getTripType () const {
00056             return _tripType;
00057         }
00058
00060         stdair::Date_T getDateRangeStart () const {
00061             return _dateRangeStart;
00062         }
00063
00065         stdair::Date_T getDateRangeEnd () const {
00066             return _dateRangeEnd;
00067         }
00068
00070         stdair::Duration_T getTimeRangeStart () const {
00071             return _timeRangeStart;
00072         }
00073
00075         stdair::Duration_T getTimeRangeEnd () const {
00076             return _timeRangeEnd;
00077         }
00078
00080         stdair::CabinCode_T getCabinCode () const {
00081             return _cabinCode;
00082         }
00083

```

```

00085     const stdair::CityCode_T getPOS () const {
00086         return _pos;
00087     }
00088
00090     stdair::ChannelLabel_T getChannel () const {
00091         return _channel;
00092     }
00093
00095     stdair::YieldValue_T getYield () const {
00096         return _yield;
00097     }
00098
00100     stdair::AirlineCode_T getAirlineCode () const {
00101         return _airlineCode;
00102     }
00103
00105     stdair::ClassCode_T getClassCode () const {
00106         return _classCode;
00107     }
00108
00110     const unsigned int getAirlineListSize () const {
00111         return _airlineCodeList.size();
00112     }
00113
00115     const unsigned int getClassCodeListSize () const {
00116         return _classCodeList.size();
00117     }
00118
00120     stdair::AirlineCodeList_T getAirlineList () const {
00121         return _airlineCodeList;
00122     }
00123
00125     stdair::ClassList_StringList_T getClassCodeList () const {
00126         return _classCodeList;
00127     }
00128
00129 public:
00130     // //////////// Display support methods ////////////
00132     stdair::Date_T calculateDate() const;
00133
00135     stdair::Duration_T calculateTime() const;
00136
00138     const std::string describe() const;
00139
00140 public:
00141     // //////////// Setters ////////////
00143     void setYieldID (const AIRRAC::YieldID_T iYieldID) {
00144         _yieldId = iYieldID;
00145     }
00146
00148     void setOrigin (const stdair::AirportCode_T& iOrigin) {
00149         _origin = iOrigin;
00150     }
00151
00153     void setDestination (const stdair::AirportCode_T& iDestination) {
00154         _destination = iDestination;
00155     }
00156
00158     void setTripType (const stdair::TripType_T& iTripType) {
00159         _tripType = iTripType;
00160     }
00161
00163     void setDateRangeStart (const stdair::Date_T& iDateRangeStart) {
00164         _dateRangeStart = iDateRangeStart;
00165     }
00166
00168     void setDateRangeEnd (const stdair::Date_T& iDateRangeEnd) {

```

```
00169     _dateRangeEnd = iDateRangeEnd;
00170 }
00171
00173 void setTimeRangeStart (const stdair::Duration_T& iTimeRangeStart) {
00174     _timeRangeStart = iTimeRangeStart;
00175 }
00176
00178 void setTimeRangeEnd (const stdair::Duration_T& iTimeRangeEnd) {
00179     _timeRangeEnd = iTimeRangeEnd;
00180 }
00181
00183 void setCabinCode (const stdair::CabinCode_T& iCabinCode) {
00184     _cabinCode = iCabinCode;
00185 }
00186
00188 void setPOS (const stdair::CityCode_T& iPOS) {
00189     _pos = iPOS;
00190 }
00191
00193 void setChannel (const stdair::ChannelLabel_T& iChannel) {
00194     _channel = iChannel;
00195 }
00196
00198 void setYield(const stdair::YieldValue_T& iYield) {
00199     _yield = iYield;
00200 }
00201
00203 void setAirlineCode (const stdair::AirlineCode_T& iAirlineCode) {
00204     _airlineCode = iAirlineCode;
00205 }
00206
00208 void setClassCode (const stdair::ClassCode_T& iClassCode) {
00209     _classCode = iClassCode;
00210 }
00211
00213 void clearAirlineCodeList () {
00214     _airlineCodeList.clear();
00215 }
00216
00218 void clearClassCodeList () {
00219     _classCodeList.clear();
00220 }
00221
00223 void addAirlineCode (const stdair::AirlineCode_T& iAirlineCode) {
00224     _airlineCodeList.push_back (iAirlineCode);
00225 }
00226
00228 void addClassCode (const stdair::ClassCode_T& iClassCode) {
00229     _classCodeList.push_back (iClassCode);
00230 }
00231
00232 public:
00233     // ////////////////////////////////// Attributes //////////////////////////////////
00235     stdair::year_t _itYear;
00236     stdair::month_t _itMonth;
00237     stdair::day_t _itDay;
00238
00240     //long _itHours;
00241     stdair::hour_t _itHours;
00242     stdair::minute_t _itMinutes;
00243     stdair::second_t _itSeconds;
00244
00245 private:
00246     // ////////////////////////////////// Attributes //////////////////////////////////
00247
00249     YieldID_T _yieldId;
00250
```

```
00252     stdair::AirportCode_T _origin;
00253
00255     stdair::AirportCode_T _destination;
00256
00258     stdair::TripType_T _tripType;
00259
00261     stdair::Date_T _dateRangeStart;
00262
00264     stdair::Date_T _dateRangeEnd;
00265
00267     stdair::Duration_T _timeRangeStart;
00268
00270     stdair::Duration_T _timeRangeEnd;
00271
00273     stdair::YieldValue_T _yield;
00274
00276     stdair::CabinCode_T _cabinCode;
00277
00279     stdair::CityCode_T _pos;
00280
00282     stdair::ChannelLabel_T _channel;
00283
00285     stdair::AirlineCode_T _airlineCode;
00286
00288     stdair::ClassCode_T _classCode;
00289
00291     stdair::AirlineCodeList_T _airlineCodeList;
00292
00294     stdair::ClassList_StringList_T _classCodeList;
00295 };
00296
00297 }
00298 #endif // __AIRRAC_BOM_YELDRULESTRUCT_HPP
```

## 25.17 airrac/command/YieldManager.cpp File Reference

```
#include <cassert>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/Inventory.hpp>
#include <stdair/bom/FlightDate.hpp>
#include <stdair/bom/SegmentDate.hpp>
#include <stdair/bom/SegmentCabin.hpp>
#include <stdair/bom/FareFamily.hpp>
#include <stdair/bom/BookingClass.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/bom/AirportPair.hpp>
#include <stdair/bom/PosChannel.hpp>
#include <stdair/bom/DatePeriod.hpp>
#include <stdair/bom/TimePeriod.hpp>
#include <stdair/bom/YieldFeatures.hpp>
#include <stdair/bom/AirlineClassList.hpp>
#include <stdair/factory/FacBomManager.hpp>
#include <stdair/service/Logger.hpp>
#include <airrac/AIRRAC_Types.hpp>
#include <airrac/command/YieldManager.hpp>
```

### Namespaces

- namespace [AIRRAC](#)

## 25.18 YieldManager.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/basic/BasConst_Request.hpp>
00008 #include <stdair/bom/BomManager.hpp>
00009 #include <stdair/bom/BomRoot.hpp>
00010 #include <stdair/bom/Inventory.hpp>
00011 #include <stdair/bom/FlightDate.hpp>
00012 #include <stdair/bom/SegmentDate.hpp>
00013 #include <stdair/bom/SegmentCabin.hpp>
00014 #include <stdair/bom/FareFamily.hpp>
00015 #include <stdair/bom/BookingClass.hpp>
00016 #include <stdair/bom/TravelSolutionStruct.hpp>
00017 #include <stdair/bom/AirportPair.hpp>
00018 #include <stdair/bom/PosChannel.hpp>
00019 #include <stdair/bom/DatePeriod.hpp>
00020 #include <stdair/bom/TimePeriod.hpp>
00021 #include <stdair/bom/YieldFeatures.hpp>
00022 #include <stdair/bom/AirlineClassList.hpp>
00023 #include <stdair/factory/FacBomManager.hpp>
00024 #include <stdair/service/Logger.hpp>
00025 // Airrac
00026 #include <airrac/AIRAC_Types.hpp>
00027 #include <airrac/command/YieldManager.hpp>
00028
00029 namespace AIRAC {
00030
00031 // //////////////////////////////////////
00032 YieldManager::YieldManager() {
00033     assert (false);
00034 }
00035
00036 // //////////////////////////////////////
00037 YieldManager::YieldManager (const YieldManager&) {
00038     assert (false);
00039 }
00040
00041 // //////////////////////////////////////
00042 YieldManager::~YieldManager() {
00043 }
00044
00045 // //////////////////////////////////////
00046 void YieldManager::
00047 calculateYield (stdair::TravelSolutionList_T& ioTravelSolutionList,
00048               const stdair::BomRoot& iBomRoot) {
00049
00050     // Browse the list of TravelSolution structures
00051     for (stdair::TravelSolutionList_T::iterator itTravelSolution =
00052          ioTravelSolutionList.begin();
00053          itTravelSolution != ioTravelSolutionList.end(); ++itTravelSolution) {
00054         stdair::TravelSolutionStruct& lTravelSolution = *itTravelSolution;
00055
00056         //
00057         YieldManager::calculateYield (lTravelSolution, iBomRoot);
00058     }
00059 }
00060
00061 // //////////////////////////////////////
00062 void YieldManager::
00063 calculateYield (stdair::TravelSolutionStruct& ioTravelSolution,
00064               const stdair::BomRoot& iBomRoot) {
00065

```

```

00066     // Calculate/retrieve the yield for the given travel solution
00067     //YieldStore::calculateYield (ioYield, ioTravelSolution);
00068
00069     // TODO: update the statistical attributes of the yield.
00070 }
00071
00072 // //////////////////////////////////////
00073 void YieldManager::updateYields (const stdair::BomRoot& iBomRoot) {
00074     // Browse the list of booking classes and update yield for each one.
00075     const stdair::InventoryList_T lInvList =
00076         stdair::BomManager::getList<stdair::Inventory> (iBomRoot);
00077     for (stdair::InventoryList_T::const_iterator itInv = lInvList.begin();
00078          itInv != lInvList.end(); ++itInv) {
00079         const stdair::Inventory* lInv_ptr = *itInv;
00080         assert (lInv_ptr != NULL);
00081
00082         // Retrieve the airline code.
00083         const stdair::AirlineCode_T& lAirlineCode = lInv_ptr->getAirlineCode();
00084
00085         //
00086         const stdair::FlightDateList_T& lFDList =
00087             stdair::BomManager::getList<stdair::FlightDate> (*lInv_ptr);
00088         for (stdair::FlightDateList_T::const_iterator itFD = lFDList.begin();
00089              itFD != lFDList.end(); ++itFD) {
00090             const stdair::FlightDate* lFD_ptr = *itFD;
00091             assert (lFD_ptr != NULL);
00092
00093             //
00094             const stdair::SegmentDateList_T& lSDList =
00095                 stdair::BomManager::getList<stdair::SegmentDate> (*lFD_ptr);
00096             for (stdair::SegmentDateList_T::const_iterator itSD = lSDList.begin();
00097                  itSD != lSDList.end(); ++itSD) {
00098                 const stdair::SegmentDate* lSD_ptr = *itSD;
00099                 assert (lSD_ptr != NULL);
00100
00101                 // Retrieve the origin and the destination
00102                 const stdair::AirportCode_T& lOrigin = lSD_ptr->getBoardingPoint();
00103                 const stdair::AirportCode_T& lDestination = lSD_ptr->getOffPoint();
00104
00105                 // Retrieve the airport pair in the yield structure.
00106                 const stdair::AirportPairKey lAirportPairKey (lOrigin, lDestination);
00107                 stdair::AirportPair* lAirportPair_ptr = stdair::BomManager::
00108                     getObjectPtr<stdair::AirportPair> (iBomRoot,
00109                                                         lAirportPairKey.toString());
00110                 if (lAirportPair_ptr == NULL) {
00111                     STDAIR_LOG_ERROR ("Cannot find yield corresponding to the airport "
00112                                     << "pair: " << lAirportPairKey.toString());
00113                     assert (false);
00114                 }
00115
00116                 // Retrieve the boarding date and time
00117                 const stdair::Date_T& lDate = lSD_ptr->getBoardingDate();
00118                 const stdair::Duration_T& lTime = lSD_ptr->getBoardingTime();
00119
00120                 // Retrieve the corresponding date period.
00121                 const stdair::DatePeriodList_T& lDatePeriodList =
00122                     stdair::BomManager::getList<stdair::DatePeriod> (*lAirportPair_ptr);
00123                 for (stdair::DatePeriodList_T::const_iterator itDatePeriod =
00124                      lDatePeriodList.begin();
00125                      itDatePeriod != lDatePeriodList.end(); ++itDatePeriod) {
00126                     const stdair::DatePeriod* lDatePeriod_ptr = *itDatePeriod;
00127                     assert (lDatePeriod_ptr != NULL);
00128
00129                     const bool isDepartureDateValid =
00130                         lDatePeriod_ptr->isDepartureDateValid (lDate);
00131
00132                     if (isDepartureDateValid == true) {

```



```

00133
00134         // Retrieve the PoS-Channel.
00135         const stdair::PosChannelKey lPosChannelKey (stdair::DEFAULT_POS,
00136                                                     stdair::DEFAULT_CHANNEL
00137     );
00138     stdair::PosChannel* lPosChannel_ptr = stdair::BomManager::
00139         getObjectPtr<stdair::PosChannel> (*lDatePeriod_ptr,
00140                                           lPosChannelKey.toString());
00141     if (lPosChannel_ptr == NULL) {
00142         STDAIR_LOG_ERROR ("Cannot find yield corresponding to the PoS-"
00143                           << "Channel: " << lPosChannelKey.toString());
00144         assert (false);
00145     }
00146     // Retrieve the corresponding time period.
00147     const stdair::TimePeriodList_T& lTimePeriodList = stdair::
00148         BomManager::getList<stdair::TimePeriod> (*lPosChannel_ptr);
00149     for (stdair::TimePeriodList_T::const_iterator itTimePeriod =
00150         lTimePeriodList.begin();
00151         itTimePeriod != lTimePeriodList.end(); ++itTimePeriod) {
00152         const stdair::TimePeriod* lTimePeriod_ptr = *itTimePeriod;
00153         assert (lTimePeriod_ptr != NULL);
00154
00155         const bool isDepartureTimeValid =
00156             lTimePeriod_ptr->isDepartureTimeValid (lTime);
00157
00158         if (isDepartureTimeValid == true) {
00159             updateYields (*lSD_ptr, *lTimePeriod_ptr, lAirlineCode);
00160         }
00161     }
00162 }
00163 }
00164 }
00165 }
00166 }
00167 }
00168
00169 // //////////////////////////////////////
00170 void YieldManager::updateYields (const stdair::SegmentDate& iSegmentDate,
00171                                 const stdair::TimePeriod& iTimePeriod,
00172                                 const stdair::AirlineCode_T& iAirlineCode) {
00173     // Browse the segment-cabin list and retrieve the corresponding
00174     // yield features.
00175     const stdair::SegmentCabinList_T& lSegmentCabinList =
00176         stdair::BomManager::getList<stdair::SegmentCabin> (iSegmentDate);
00177     for (stdair::SegmentCabinList_T::const_iterator itSC =
00178         lSegmentCabinList.begin(); itSC != lSegmentCabinList.end(); ++itSC) {
00179         const stdair::SegmentCabin* lSegmentCabin_ptr = *itSC;
00180         assert (lSegmentCabin_ptr != NULL);
00181
00182         const stdair::CabinCode_T& lCabinCode = lSegmentCabin_ptr->getCabinCode();
00183         const stdair::TripType_T lTripType (stdair::TRIP_TYPE_ONE_WAY);
00184         const stdair::YieldFeaturesKey lYieldFeaturesKey (lTripType,
00185                                                         lCabinCode);
00186         const stdair::YieldFeatures* lYieldFeatures_ptr = stdair::BomManager::
00187             getObjectPtr<stdair::YieldFeatures> (iTimePeriod,
00188                                                 lYieldFeaturesKey.toString());
00189         if (lYieldFeatures_ptr == NULL) {
00190             STDAIR_LOG_ERROR ("Cannot find the yield features corresponding to "
00191                               << iTimePeriod.describeKey() << ", "
00192                               << lCabinCode << " and " << lTripType);
00193             assert (false);
00194         }
00195
00196         // Browse the list of booking class and update the yield for each one.
00197         const stdair::FareFamilyList_T& lFFlist = stdair::BomManager::
00198             getList<stdair::FareFamily> (*lSegmentCabin_ptr);

```

```

00199         for (stdair::FareFamilyList_T::const_iterator itFF = lFFlist.begin();
00200             itFF != lFFlist.end(); ++itFF) {
00201             const stdair::FareFamily* lFF_ptr = *itFF;
00202             assert (lFF_ptr != NULL);
00203
00204             const stdair::BookingClassList_T& lBCList = stdair::BomManager::
00205                 getList<stdair::BookingClass> (*lFF_ptr);
00206             for (stdair::BookingClassList_T::const_iterator itBC = lBCList.begin();
00207                 itBC != lBCList.end(); ++itBC) {
00208                 stdair::BookingClass* lBookingClass_ptr = *itBC;
00209                 assert (lBookingClass_ptr != NULL);
00210
00211                 const stdair::ClassCode_T& lClassCode =
00212                     lBookingClass_ptr->getClassCode();
00213                 stdair::AirlineCodeList_T lAirlineCodeList;
00214                 lAirlineCodeList.push_back (iAirlineCode);
00215                 stdair::ClassList_StringList_T lClassList;
00216                 lClassList.push_back (lClassCode);
00217                 const stdair::AirlineClassListKey lACListKey (lAirlineCodeList,
00218                                                             lClassList);
00219
00220                 const stdair::AirlineClassList* lAirlineClassList_ptr = stdair::
00221                     BomManager::getObjectPtr<stdair::AirlineClassList> (*lYieldFeatures_p
tr, lACListKey.toString());
00222                 if (lAirlineClassList_ptr != NULL) {
00223                     const stdair::Yield_T& lYield = lAirlineClassList_ptr->getYield();
00224                     lBookingClass_ptr->setYield (lYield);
00225
00226                     //DEBUG
00227                     STDAIR_LOG_DEBUG ("Update yield of " << lYield << " for "
00228                                     << iAirlineCode << ", "
00229                                     << iSegmentDate.describeKey() << ", "
00230                                     << lBookingClass_ptr->describeKey());
00231                 }
00232             }
00233         }
00234     }
00235 }
00236 }

```

## 25.19 airrac/command/YieldManager.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
```

### Classes

- class [AIRRAC::YieldManager](#)  
*Command wrapping the travel request process.*

### Namespaces

- namespace [stdair](#)  
*Forward declarations.*
- namespace [AIRRAC](#)

## 25.20 YieldManager.hpp

```
00001 #ifndef __AIRRAC_CMD_YELDMANAGER_HPP
00002 #define __AIRRAC_CMD_YELDMANAGER_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/bom/TravelSolutionTypes.hpp>
00010
00012 namespace stdair {
00013     class BomRoot;
00014     class SegmentDate;
00015     class TimePeriod;
00016 }
00017
00018 namespace AIRRAC {
00019
00023     class YieldManager {
00027         friend class AIRRAC_Service;
00028
00029     private:
00033         static void calculateYield (stdair::TravelSolutionList_T&,
00034                                     const stdair::BomRoot&);
00035
00039         static void calculateYield (stdair::TravelSolutionStruct&,
00040                                     const stdair::BomRoot&);
00041
00045         static void updateYields (const stdair::BomRoot&);
00046         static void updateYields (const stdair::SegmentDate&,
00047                                   const stdair::TimePeriod&,
00048                                   const stdair::AirlineCode_T&);
00049
00050     private:
00054         YieldManager();
00055
00059         YieldManager(const YieldManager&);
00060
00064         ~YieldManager();
00065     };
00066 }
00067
00068 #endif // __AIRRAC_CMD_YELDMANAGER_HPP
```

## 25.21 airrac/command/YieldParser.cpp File Reference

```
#include <cassert>
#include <string>
#include <stdair/basic/BasFileMgr.hpp>
#include <airrac/command/YieldParserHelper.hpp>
#include <airrac/command/YieldParser.hpp>
```

### Namespaces

- namespace [AIRRAC](#)

## 25.22 YieldParser.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <string>
00007 // StdAir
00008 #include <stdair/basic/BasFileMgr.hpp>
00009 // AirRAC
00010 #include <airrac/command/YieldParserHelper.hpp>
00011 #include <airrac/command/YieldParser.hpp>
00012
00013 namespace AIRRAC {
00014
00015 // //////////////////////////////////////
00016 void YieldParser::generateYieldStore (const YieldFilePath& iYieldFilename,
00017                                     stdair::BomRoot& ioBomRoot) {
00018
00019     const stdair::Filename_T lFilename = iYieldFilename.name();
00020
00021     // Check that the file path given as input corresponds to an actual file
00022     const bool doesExistAndIsReadable =
00023         stdair::BasFileMgr::doesExistAndIsReadable (lFilename);
00024     if (doesExistAndIsReadable == false) {
00025         STDAIR_LOG_ERROR ("The yield input file, '" << lFilename
00026                         << "', can not be retrieved on the file-system");
00027         throw YieldInputFileNotFoundException ("The yield file '" + lFilename
00028                                             + "' does not exist or can not "
00029                                             "be read");
00030     }
00031
00032     // Initialise the yield file parser.
00033     YieldFileParser lYieldParser (ioBomRoot, lFilename);
00034
00035     // Parse the CSV-formatted yield store input file, and generate the
00036     // corresponding Yield-related objects.
00037     lYieldParser.generateYieldStore();
00038 }
00039 }

```

## 25.23 airrac/command/YieldParser.hpp File Reference

```
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/command/CmdAbstract.hpp>
#include <airrac/AIRRAC_Types.hpp>
```

### Classes

- class [AIRRAC::YieldParser](#)  
*Class wrapping the parser entry point.*

### Namespaces

- namespace [stdair](#)  
*Forward declarations.*
- namespace [AIRRAC](#)

## 25.24 YieldParser.hpp

```
00001 #ifndef __AIRRAC_CMD_YELDPARSER_HPP
00002 #define __AIRRAC_CMD_YELDPARSER_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011 #include <stdair/command/CmdAbstract.hpp>
00012 //AirRAC
00013 #include <airrac/AIRRAC_Types.hpp>
00014
00016 namespace stdair {
00017     class BomRoot;
00018 }
00019
00020 namespace AIRRAC {
00021
00025     class YieldParser : public stdair::CmdAbstract {
00026     public:
00036         static void generateYieldStore (const YieldFilePath&, stdair::BomRoot&);
00037     };
00038 }
00039 #endif // __AIRRAC_CMD_YELDPARSER_HPP
```



## 25.25 airrac/command/YieldParserHelper.cpp File Reference

```
#include <cassert>
#include <fstream>
#include <vector>
#include <stdair/basic/BasFileMgr.hpp>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/basic/BasParserTypes.hpp>
#include <airrac/command/YieldParserHelper.hpp>
#include <airrac/command/YieldRuleGenerator.hpp>
```

### Classes

- struct [AIRRAC::YieldParserHelper::YieldRuleParser](#)

### Namespaces

- namespace [AIRRAC](#)
- namespace [AIRRAC::YieldParserHelper](#)

### Variables

- stdair::int1\_p\_t [AIRRAC::YieldParserHelper::int1\\_p](#)
- stdair::uint2\_p\_t [AIRRAC::YieldParserHelper::uint2\\_p](#)
- stdair::uint4\_p\_t [AIRRAC::YieldParserHelper::uint4\\_p](#)
- stdair::uint1\_4\_p\_t [AIRRAC::YieldParserHelper::uint1\\_4\\_p](#)
- stdair::hour\_p\_t [AIRRAC::YieldParserHelper::hour\\_p](#)
- stdair::minute\_p\_t [AIRRAC::YieldParserHelper::minute\\_p](#)
- stdair::second\_p\_t [AIRRAC::YieldParserHelper::second\\_p](#)
- stdair::year\_p\_t [AIRRAC::YieldParserHelper::year\\_p](#)
- stdair::month\_p\_t [AIRRAC::YieldParserHelper::month\\_p](#)
- stdair::day\_p\_t [AIRRAC::YieldParserHelper::day\\_p](#)

## 25.26 YieldParserHelper.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <fstream>
00007 #include <vector>
00008 // StdAir
00009 #include <stdair/basic/BasFileMgr.hpp>
00010 #include <stdair/basic/BasConst_Request.hpp>
00011 #include <stdair/bom/BomRoot.hpp>
00012 #include <stdair/service/Logger.hpp>
00013 //#define BOOST_SPIRIT_DEBUG
00014 #include <stdair/basic/BasParserTypes.hpp>
00015 // Airrac
00016 #include <airrac/command/YieldParserHelper.hpp>
00017 #include <airrac/command/YieldRuleGenerator.hpp>
00018
00019 namespace AIRRAC {
00020
00021     namespace YieldParserHelper {
00022
00023         // //////////////////////////////////////
00024         // Semantic actions
00025         // //////////////////////////////////////
00026
00027         ParserSemanticAction::
00028         ParserSemanticAction (YieldRuleStruct& ioYieldRule)
00029             : _yieldRule (ioYieldRule) {
00030         }
00031
00032         // //////////////////////////////////////
00033         storeYieldId::
00034         storeYieldId (YieldRuleStruct& ioYieldRule)
00035             : ParserSemanticAction (ioYieldRule) {
00036         }
00037
00038         // //////////////////////////////////////
00039         void storeYieldId::operator() (unsigned int iYieldId,
00040                                         boost::spirit::qi::unused_type,
00041                                         boost::spirit::qi::unused_type) const {
00042             _yieldRule.setYieldID (iYieldId);
00043
00044             // DEBUG
00045             //STDAIR_LOG_DEBUG ( "Yield Id: " << _yieldRule.getYieldID ());
00046
00047             const stdair::AirlineCode_T lEmptyAirlineCode ("");
00048             _yieldRule.setAirlineCode(lEmptyAirlineCode);
00049             _yieldRule.clearAirlineCodeList();
00050             const stdair::ClassCode_T lEmptyClassCode ("");
00051             _yieldRule.setClassCode(lEmptyClassCode);
00052             _yieldRule.clearClassCodeList();
00053             _yieldRule._itSeconds = 0;
00054         }
00055     }
00056
00057     // //////////////////////////////////////
00058     storeOrigin ::
00059     storeOrigin (YieldRuleStruct& ioYieldRule)
00060         : ParserSemanticAction (ioYieldRule) {
00061     }
00062
00063     // //////////////////////////////////////
00064     void storeOrigin::operator() (std::vector<char> iChar,
00065                                     boost::spirit::qi::unused_type,

```

```

00066                                     boost::spirit::qi::unused_type) const {
00067     const stdair::AirportCode_T lOrigin (iChar.begin(), iChar.end());
00068     _yieldRule.setOrigin (lOrigin);
00069     // DEBUG
00070     //STDAIR_LOG_DEBUG ( "Origin: " << _yieldRule.getOrigin ());
00071 }
00072
00073 //////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
00074 storeDestination ::
00075 storeDestination (YieldRuleStruct& ioYieldRule)
00076 : ParserSemanticAction (ioYieldRule) {
00077 }
00078
00079 //////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
00080 void storeDestination::operator() (std::vector<char> iChar,
00081                                   boost::spirit::qi::unused_type,
00082                                   boost::spirit::qi::unused_type) const {
00083     const stdair::AirportCode_T lDestination (iChar.begin(), iChar.end());
00084     _yieldRule.setDestination (lDestination);
00085     // DEBUG
00086     //STDAIR_LOG_DEBUG ( "Destination: " << _yieldRule.getDestination ());
00087 }
00088
00089 //////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
00090 storeTripType ::
00091 storeTripType (YieldRuleStruct& ioYieldRule)
00092 : ParserSemanticAction (ioYieldRule) {
00093 }
00094
00095 //////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
00096 void storeTripType::operator() (std::vector<char> iChar,
00097                                 boost::spirit::qi::unused_type,
00098                                 boost::spirit::qi::unused_type) const {
00099     const stdair::TripType_T lTripType (iChar.begin(), iChar.end());
00100     if (lTripType == "OW" || lTripType == "RT") {
00101         _yieldRule.setTripType (lTripType);
00102     } else {
00103         // ERROR
00104         STDAIR_LOG_ERROR ("Invalid trip type " << lTripType);
00105     }
00106     // DEBUG
00107     //STDAIR_LOG_DEBUG ("TripType: " << _yieldRule.getTripType ());
00108 }
00109
00110 //////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
00111 storeDateRangeStart::
00112 storeDateRangeStart (YieldRuleStruct& ioYieldRule)
00113 : ParserSemanticAction (ioYieldRule) {
00114 }
00115
00116 //////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
00117 void storeDateRangeStart::operator() (boost::spirit::qi::unused_type,
00118                                       boost::spirit::qi::unused_type,
00119                                       boost::spirit::qi::unused_type) const {
00120
00121     const stdair::Date_T& lDateStart = _yieldRule.calculateDate ();
00122     _yieldRule.setDateRangeStart (lDateStart);
00123     // DEBUG
00124     //STDAIR_LOG_DEBUG ("Date Range Start: "<< _yieldRule.getDateRangeStart ());
00125 ;
00126 }
00127
00128 //////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
00129 storeDateRangeEnd::
00129 storeDateRangeEnd(YieldRuleStruct& ioYieldRule)
00130 : ParserSemanticAction (ioYieldRule) {

```

```

00131     }
00132
00133     // ////////////////////////////////////////
00134 void storeDateRangeEnd::operator() (boost::spirit::qi::unused_type,
00135                                     boost::spirit::qi::unused_type,
00136                                     boost::spirit::qi::unused_type) const {
00137     const stdair::Date_T& lDateEnd = _yieldRule.calculateDate ();
00138     // As a Boost date period (DatePeriod_T) defines the last day of
00139     // the period to be end-date - one day, we have to add one day to that
00140     // end date before.
00141     const stdair::DateOffset_T oneDay (1);
00142     const stdair::Date_T lBoostDateEnd = lDateEnd + oneDay;
00143     _yieldRule.setDateRangeEnd (lBoostDateEnd);
00144     // DEBUG
00145     //STDAIR_LOG_DEBUG ("Date Range End: " << _yieldRule.getDateRangeEnd ());
00146 }
00147
00148     // ////////////////////////////////////////
00149 storeStartRangeTime::
00150 storeStartRangeTime (YieldRuleStruct& ioYieldRule)
00151     : ParserSemanticAction (ioYieldRule) {
00152 }
00153
00154     // ////////////////////////////////////////
00155 void storeStartRangeTime::operator() (boost::spirit::qi::unused_type,
00156                                     boost::spirit::qi::unused_type,
00157                                     boost::spirit::qi::unused_type) const {
00158
00159     const stdair::Duration_T& lTimeStart = _yieldRule.calculateTime ();
00160     _yieldRule.setTimeRangeStart (lTimeStart);
00161     // DEBUG
00162     //STDAIR_LOG_DEBUG ("Time Range Start: " << _yieldRule.getTimeRangeStart ());
00163 };
00164     // Reset the number of seconds
00165     _yieldRule._itSeconds = 0;
00166 }
00167
00168     // ////////////////////////////////////////
00169 storeEndRangeTime::
00170 storeEndRangeTime (YieldRuleStruct& ioYieldRule)
00171     : ParserSemanticAction (ioYieldRule) {
00172 }
00173
00174     // ////////////////////////////////////////
00175 void storeEndRangeTime::operator() (boost::spirit::qi::unused_type,
00176                                     boost::spirit::qi::unused_type,
00177                                     boost::spirit::qi::unused_type) const {
00178     const stdair::Duration_T& lTimeEnd = _yieldRule.calculateTime ();
00179     _yieldRule.setTimeRangeEnd (lTimeEnd);
00180     // DEBUG
00181     //STDAIR_LOG_DEBUG ("Time Range End: " << _yieldRule.getTimeRangeEnd ());
00182     // Reset the number of seconds
00183     _yieldRule._itSeconds = 0;
00184 }
00185
00186     // ////////////////////////////////////////
00187 storePOS ::
00188 storePOS (YieldRuleStruct& ioYieldRule)
00189     : ParserSemanticAction (ioYieldRule) {
00190 }
00191
00192     // ////////////////////////////////////////
00193 void storePOS::operator() (std::vector<char> iChar,
00194                             boost::spirit::qi::unused_type,
00195                             boost::spirit::qi::unused_type) const {
00196     const stdair::CityCode_T lPOS (iChar.begin(), iChar.end());
00197     if (lPOS == _yieldRule.getOrigin() || lPOS == _yieldRule.getDestination() )

```

```

00196 {
00197     _yieldRule.setPOS (lPOS);
00198 } else if (lPOS == "ROW") {
00199     const stdair::CityCode_T lPOSROW ("ROW");
00200     _yieldRule.setPOS (lPOSROW);
00201 } else if (lPOS == stdair::DEFAULT_POS) {
00202     _yieldRule.setPOS (stdair::DEFAULT_POS);
00203 } else {
00204     // ERROR
00205     STDAIR_LOG_ERROR ("Invalid point of sale " << lPOS);
00206 }
00207 // DEBUG
00208 //STDAIR_LOG_DEBUG ("POS: " << _yieldRule.getPOS ());
00209 }
00210 // //////////////////////////////////////
00211 storeCabinCode ::
00212 storeCabinCode (YieldRuleStruct& ioYieldRule)
00213 : ParserSemanticAction (ioYieldRule) {
00214 }
00215 // //////////////////////////////////////
00216 void storeCabinCode::operator() (char iChar,
00217     boost::spirit::qi::unused_type,
00218     boost::spirit::qi::unused_type) const {
00219     std::ostringstream ostr;
00220     ostr << iChar;
00221     const std::string& cabinCodeStr = ostr.str();
00222     const stdair::CabinCode_T lCabinCode (cabinCodeStr);
00223     _yieldRule.setCabinCode (lCabinCode);
00224 // DEBUG
00225 //STDAIR_LOG_DEBUG ("Cabin Code: " << _yieldRule.getCabinCode ());
00226 }
00227 // //////////////////////////////////////
00228 storeChannel ::
00229 storeChannel (YieldRuleStruct& ioYieldRule)
00230 : ParserSemanticAction (ioYieldRule) {
00231 }
00232 // //////////////////////////////////////
00233 void storeChannel::operator() (std::vector<char> iChar,
00234     boost::spirit::qi::unused_type,
00235     boost::spirit::qi::unused_type) const {
00236     const stdair::ChannelLabel_T lChannel (iChar.begin(), iChar.end());
00237     if (lChannel != "IN" && lChannel != "IF" && lChannel != "DN"
00238         && lChannel != "DF" && lChannel != stdair::DEFAULT_CHANNEL) {
00239         // ERROR
00240         STDAIR_LOG_ERROR ("Invalid channel " << lChannel);
00241     }
00242     _yieldRule.setChannel (lChannel);
00243 // DEBUG
00244 //STDAIR_LOG_DEBUG ("Channel: " << _yieldRule.getChannel ());
00245 }
00246 // //////////////////////////////////////
00247 storeYield ::
00248 storeYield (YieldRuleStruct& ioYieldRule)
00249 : ParserSemanticAction (ioYieldRule) {
00250 }
00251 // //////////////////////////////////////
00252 void storeYield::operator() (double iYield,
00253     boost::spirit::qi::unused_type,

```

```

00261                                     boost::spirit::qi::unused_type) const {
00262     const stdair::YieldValue_T lYield= iYield;
00263     _yieldRule.setYield (lYield);
00264     // DEBUG
00265     //STDAIR_LOG_DEBUG ("Yield: " << _yieldRule.getYield ());
00266 }
00267
00268 ///////////////////////////////////////////////////////////////////
00269 storeAirlineCode ::
00270 storeAirlineCode (YieldRuleStruct& ioYieldRule)
00271     : ParserSemanticAction (ioYieldRule) {
00272 }
00273
00274 ///////////////////////////////////////////////////////////////////
00275 void storeAirlineCode::operator() (std::vector<char> iChar,
00276                                     boost::spirit::qi::unused_type,
00277                                     boost::spirit::qi::unused_type) const {
00278
00279     const stdair::AirlineCode_T lAirlineCode (iChar.begin(), iChar.end());
00280     // Update the airline code
00281     _yieldRule.setAirlineCode (lAirlineCode);
00282     // Insertion of this airline Code list in the whole AirlineCode name
00283     _yieldRule.addAirlineCode (lAirlineCode);
00284     // DEBUG
00285     //STDAIR_LOG_DEBUG ( "Airline code: " << lAirlineCode);
00286 }
00287
00288 ///////////////////////////////////////////////////////////////////
00289 storeClass ::
00290 storeClass (YieldRuleStruct& ioYieldRule)
00291     : ParserSemanticAction (ioYieldRule) {
00292 }
00293
00294 ///////////////////////////////////////////////////////////////////
00295 void storeClass::operator() (std::vector<char> iChar,
00296                                     boost::spirit::qi::unused_type,
00297                                     boost::spirit::qi::unused_type) const {
00298     std::ostringstream ostr;
00299     for (std::vector<char>::const_iterator lItVector = iChar.begin();
00300          lItVector != iChar.end();
00301          lItVector++) {
00302         ostr << *lItVector;
00303     }
00304     const std::string& classCodeStr = ostr.str();
00305     const stdair::ClassCode_T lClassCode (classCodeStr);
00306     // Insertion of this class Code list in the whole classCode name
00307     _yieldRule.addClassCode (lClassCode);
00308     // DEBUG
00309     //STDAIR_LOG_DEBUG ("Class Code: " << classCodeStr);
00310 }
00311
00312 ///////////////////////////////////////////////////////////////////
00313 doEndYield::
00314 doEndYield (stdair::BomRoot& ioBomRoot,
00315             YieldRuleStruct& ioYieldRule)
00316     : ParserSemanticAction (ioYieldRule),
00317       _bomRoot (ioBomRoot) {
00318 }
00319
00320 ///////////////////////////////////////////////////////////////////
00321 void doEndYield::operator() (boost::spirit::qi::unused_type,
00322                             boost::spirit::qi::unused_type,
00323                             boost::spirit::qi::unused_type) const {
00324     // DEBUG
00325     // STDAIR_LOG_DEBUG ("Do End");
00326     // Generation of the yield rule object.
00327     YieldRuleGenerator::createAirportPair (_bomRoot, _yieldRule);

```

```

00328     STDAIR_LOG_DEBUG (_yieldRule.describe());
00329 }
00330
00331 // //////////////////////////////////////
00332 //
00333 //  Utility Parsers
00334 //
00335 // //////////////////////////////////////
00337 namespace bsq = boost::spirit::qi;
00338 namespace bsa = boost::spirit::ascii;
00339
00341 stdair::int1_p_t int1_p;
00342
00344 stdair::uint2_p_t uint2_p;
00345
00347 stdair::uint4_p_t uint4_p;
00348
00350 stdair::uint1_4_p_t uint1_4_p;
00351
00353 stdair::hour_p_t hour_p;
00354 stdair::minute_p_t minute_p;
00355 stdair::second_p_t second_p;
00356
00358 stdair::year_p_t year_p;
00359 stdair::month_p_t month_p;
00360 stdair::day_p_t day_p;
00361
00363 //
00364 //  (Boost Spirit) Grammar Definition
00365 //
00367
00387 struct YieldRuleParser :
00388     public boost::spirit::qi::grammar<stdair::iterator_t,
00389                                     boost::spirit::ascii::space_type> {
00390
00391     YieldRuleParser (stdair::BomRoot& ioBomRoot,
00392                     YieldRuleStruct& ioYieldRule) :
00393         YieldRuleParser::base_type(start),
00394         _bomRoot(ioBomRoot), _yieldRule(ioYieldRule) {
00395
00396         start = *(comments | yield_rule);
00397
00398         comments = (bsq::lexeme[bsq::repeat(2)[bsa::char_('/')]
00399                             >> +(bsa::char_ - bsq::eol)
00400                             >> bsq::eol]
00401             | bsq::lexeme[bsa::char_('/') >> bsa::char_('*')
00402                             >> +(bsa::char_ - bsa::char_('*'))
00403                             >> bsa::char_('*') >> bsa::char_('/')]);
00404
00405         yield_rule = yield_id
00406             >> ';' >> origin >> ';' >> destination
00407             >> ';' >> tripType
00408             >> ';' >> dateRangeStart >> ';' >> dateRangeEnd
00409             >> ';' >> timeRangeStart >> ';' >> timeRangeEnd
00410             >> ';' >> point_of_sale >> ';' >> cabinCode
00411             >> ';' >> channel >> ';' >> yield
00412             >> +(';' >> segment )
00413             >> yield_rule_end[doEndYield(_bomRoot, _yieldRule)];
00414     ;
00415
00416     yield_id = uint1_4_p[storeYieldId(_yieldRule)];
00417
00418     origin = bsq::repeat(3)[bsa::char_("A-Z")][storeOrigin(_yieldRule)];
00419
00420     destination =
00421         bsq::repeat(3)[bsa::char_("A-Z")][storeDestination(_yieldRule)];
00422

```

```

00423     tripType =
00424         bsq::repeat(2) [bsa::char_("A-Z")] [storeTripType(_yieldRule)];
00425
00426     dateRangeStart = date[storeDateRangeStart(_yieldRule)];
00427
00428     dateRangeEnd = date[storeDateRangeEnd(_yieldRule)];
00429
00430     date = bsq::lexeme
00431         [year_p[boost::phoenix::ref(_yieldRule._itYear) = bsq::labels::_1]
00432         >> '-']
00433         >> month_p[boost::phoenix::ref(_yieldRule._itMonth) = bsq::labels::_1]
00434
00435         >> '-'
00436         >> day_p[boost::phoenix::ref(_yieldRule._itDay) = bsq::labels::_1] ];
00437
00438     timeRangeStart = time[storeStartRangeTime(_yieldRule)];
00439
00440     timeRangeEnd = time[storeEndRangeTime(_yieldRule)];
00441
00442     time = bsq::lexeme
00443         [hour_p[boost::phoenix::ref(_yieldRule._itHours) = bsq::labels::_1]
00444         >> ':'
00445         >> minute_p[boost::phoenix::ref(_yieldRule._itMinutes) = bsq::labels::_1]
00446         >> - (':' >> second_p[boost::phoenix::ref(_yieldRule._itSeconds) = bsq::labels::_1]) ];
00447
00448     point_of_sale = bsq::repeat(3) [bsa::char_("A-Z")] [storePOS(_yieldRule)];
00449
00450     cabinCode = bsa::char_("A-Z") [storeCabinCode(_yieldRule)];
00451
00452     channel = bsq::repeat(2) [bsa::char_("A-Z")] [storeChannel(_yieldRule)];
00453
00454     yield = bsq::double_[storeYield(_yieldRule)];
00455
00456     segment = bsq::repeat(2) [bsa::char_("A-Z")] [storeAirlineCode(_yieldRule)]
00457
00458     >> ';'
00459     >> bsq::repeat(1, bsq::inf) [bsa::char_("A-Z")] [storeClass(_yieldRule)];
00460
00461     yield_rule_end = bsa::char_(';');
00462
00463     // BOOST_SPIRIT_DEBUG_NODE (YieldParser);
00464     BOOST_SPIRIT_DEBUG_NODE (start);
00465     BOOST_SPIRIT_DEBUG_NODE (comments);
00466     BOOST_SPIRIT_DEBUG_NODE (yield_rule);
00467     BOOST_SPIRIT_DEBUG_NODE (yield_id);
00468     BOOST_SPIRIT_DEBUG_NODE (origin);
00469     BOOST_SPIRIT_DEBUG_NODE (destination);
00470     BOOST_SPIRIT_DEBUG_NODE (tripType);
00471     BOOST_SPIRIT_DEBUG_NODE (dateRangeStart);
00472     BOOST_SPIRIT_DEBUG_NODE (dateRangeEnd);
00473     BOOST_SPIRIT_DEBUG_NODE (date);
00474     BOOST_SPIRIT_DEBUG_NODE (timeRangeStart);
00475     BOOST_SPIRIT_DEBUG_NODE (timeRangeEnd);
00476     BOOST_SPIRIT_DEBUG_NODE (time);
00477     BOOST_SPIRIT_DEBUG_NODE (point_of_sale);
00478     BOOST_SPIRIT_DEBUG_NODE (cabinCode);
00479     BOOST_SPIRIT_DEBUG_NODE (channel);
00480     BOOST_SPIRIT_DEBUG_NODE (yield);
00481     BOOST_SPIRIT_DEBUG_NODE (segment);
00482     BOOST_SPIRIT_DEBUG_NODE (yield_rule_end);
00483
00484 }
00485
00486 // Instantiation of rules
00487 boost::spirit::qi::rule<stdair::iterator_t,

```



```

00486         boost::spirit::ascii::space_type>
00487         start, comments, yield_rule, yield_id, origin, destination, tripType,
00488         dateRangeStart, dateRangeEnd, date, timeRangeStart, timeRangeEnd,
00489         time, point_of_sale, cabinCode, channel, yield, segment,
00490         yield_rule_end;
00491
00492         // Parser Context
00493         stdair::BomRoot& _bomRoot;
00494         YieldRuleStruct& _yieldRule;
00495     };
00496
00497 }
00498
00499
00501 //
00502 // Entry class for the file parser
00503 //
00504
00505
00506 // //////////////////////////////////////
00507 YieldFileParser::YieldFileParser (stdair::BomRoot& ioBomRoot,
00508                                   const std::string& iFilename)
00509     : _filename (iFilename), _bomRoot (ioBomRoot) {
00510     init();
00511 }
00512
00513 // //////////////////////////////////////
00514 void YieldFileParser::init() {
00515
00516     // Check that the file exists and is readable
00517     const bool doesExistAndIsReadable =
00518         stdair::BasFileMgr::doesExistAndIsReadable (_filename);
00519
00520     if (doesExistAndIsReadable == false) {
00521         STDAIR_LOG_ERROR ("The yield schedule file " << _filename
00522                         << " does not exist or can not be read.");
00523
00524         throw YieldInputFileNotFoundExpection ("The yield file " + _filename + " do
00525 es not exist or can not be read");
00526     }
00527
00528 // //////////////////////////////////////
00529 void YieldFileParser::generateYieldStore () {
00530
00531     STDAIR_LOG_DEBUG ("Parsing yield input file: " << _filename);
00532
00533     // File to be parsed
00534     std::ifstream fileToBeParsed (_filename.c_str(), std::ios_base::in);
00535
00536     // Check the filename exists and can be open
00537     if (fileToBeParsed.is_open() == false) {
00538         STDAIR_LOG_ERROR ("The yield store file " << _filename
00539                         << " can not be open."
00540                         << std::endl);
00541
00542         throw YieldInputFileNotFoundExpection ("The file " + _filename
00543 d");
00544     }
00545
00546     // Create an input iterator
00547     stdair::base_iterator_t inputBegin (fileToBeParsed);
00548
00549     // Convert input iterator to an iterator usable by spirit parser
00550     stdair::iterator_t
00551         start (boost::spirit::make_default_multi_pass (inputBegin));
00552     stdair::iterator_t end;

```

```
00553
00554 // Initialise the parser (grammar) with the helper/staging structure.
00555 YieldParserHelper::YieldRuleParser lYParser(_bomRoot, _yieldRule);
00556
00557 // Launch the parsing of the file and, thanks to the doEndYield
00558 // call-back structure, the building of the whole BomRoot BOM
00559 const bool hasParsingBeenSuccesful =
00560     boost::spirit::qi::phrase_parse (start, end, lYParser,
00561                                     boost::spirit::ascii::space);
00562
00563 if (hasParsingBeenSuccesful == false) {
00564     // TODO: decide whether to throw an exception
00565     STDAIR_LOG_ERROR ("Parsing of yield input file: " << _filename
00566                     << " failed");
00567     throw YieldFileParsingFailedException ("Parsing of yield input file: "
00568                                           + _filename + " failed");
00569 }
00570 if (start != end) {
00571     // TODO: decide whether to throw an exception
00572     STDAIR_LOG_ERROR ("Parsing of yield input file: " << _filename
00573                     << " failed");
00574     throw YieldFileParsingFailedException ("Parsing of yield input file: "
00575                                           + _filename + " failed");
00576 }
00577 if (hasParsingBeenSuccesful == true && start == end) {
00578     STDAIR_LOG_DEBUG ("Parsing of yield input file: " << _filename
00579                     << " succeeded");
00580 }
00581
00582 }
00583
00584 }
```

## 25.27 airrac/command/YieldParserHelper.hpp File Reference

```
#include <string>
#include <boost/spirit/include/qi.hpp>
#include <stdair/command/CmdAbstract.hpp>
#include <airrac/AIRRAC_Types.hpp>
#include <airrac/bom/YieldRuleStruct.hpp>
```

### Classes

- struct [AIRRAC::YieldParserHelper::ParserSemanticAction](#)
- struct [AIRRAC::YieldParserHelper::storeYieldId](#)
- struct [AIRRAC::YieldParserHelper::storeOrigin](#)
- struct [AIRRAC::YieldParserHelper::storeDestination](#)
- struct [AIRRAC::YieldParserHelper::storeTripType](#)
- struct [AIRRAC::YieldParserHelper::storeDateRangeStart](#)
- struct [AIRRAC::YieldParserHelper::storeDateRangeEnd](#)
- struct [AIRRAC::YieldParserHelper::storeStartRangeTime](#)
- struct [AIRRAC::YieldParserHelper::storeEndRangeTime](#)
- struct [AIRRAC::YieldParserHelper::storePOS](#)
- struct [AIRRAC::YieldParserHelper::storeCabinCode](#)
- struct [AIRRAC::YieldParserHelper::storeChannel](#)
- struct [AIRRAC::YieldParserHelper::storeYield](#)
- struct [AIRRAC::YieldParserHelper::storeAirlineCode](#)
- struct [AIRRAC::YieldParserHelper::storeClass](#)
- struct [AIRRAC::YieldParserHelper::doEndYield](#)
- class [AIRRAC::YieldFileParser](#)

### Namespaces

- namespace [stdair](#)  
*Forward declarations.*
- namespace [AIRRAC](#)
- namespace [AIRRAC::YieldParserHelper](#)

## 25.28 YieldParserHelper.hpp

```

00001 #ifndef __AIRRAC_CMD_YELDPARSERHELPER_HPP
00002 #define __AIRRAC_CMD_YELDPARSERHELPER_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // Boost
00010 #include <boost/spirit/include/qi.hpp>
00011 // StdAir
00012 #include <stdair/command/CmdAbstract.hpp>
00013 // Airrac
00014 #include <airrac/AIRRAC_Types.hpp>
00015 #include <airrac/bom/YieldRuleStruct.hpp>
00016
00017 // Forward declarations
00018 namespace stdair {
00019     class BomRoot;
00020 }
00021
00022 namespace AIRRAC {
00023
00024     namespace YieldParserHelper {
00025
00026         // //////////////////////////////////////
00027         // Semantic actions
00028         // //////////////////////////////////////
00030         struct ParserSemanticAction {
00032             ParserSemanticAction (YieldRuleStruct&);
00034             YieldRuleStruct& _yieldRule;
00035         };
00036
00038         struct storeYieldId : public ParserSemanticAction {
00040             storeYieldId (YieldRuleStruct&);
00042             void operator() (unsigned int,
00043                             boost::spirit::qi::unused_type,
00044                             boost::spirit::qi::unused_type) const;
00045         };
00046
00048         struct storeOrigin : public ParserSemanticAction {
00050             storeOrigin (YieldRuleStruct&);
00052             void operator() (std::vector<char>,
00053                             boost::spirit::qi::unused_type,
00054                             boost::spirit::qi::unused_type) const;
00055         };
00056
00058         struct storeDestination : public ParserSemanticAction {
00060             storeDestination (YieldRuleStruct&);
00062             void operator() (std::vector<char>,
00063                             boost::spirit::qi::unused_type,
00064                             boost::spirit::qi::unused_type) const;
00065         };
00066
00068         struct storeTripType : public ParserSemanticAction {
00070             storeTripType (YieldRuleStruct&);
00072             void operator() (std::vector<char>,
00073                             boost::spirit::qi::unused_type,
00074                             boost::spirit::qi::unused_type) const;
00075         };
00076
00078         struct storeDateRangeStart : public ParserSemanticAction {
00080             storeDateRangeStart (YieldRuleStruct&);
00082             void operator() (boost::spirit::qi::unused_type,
00083                             boost::spirit::qi::unused_type,

```

```

00084             boost::spirit::qi::unused_type) const;
00085     };
00086
00088     struct storeDateRangeEnd : public ParserSemanticAction {
00090         storeDateRangeEnd (YieldRuleStruct&);
00092         void operator() (boost::spirit::qi::unused_type,
00093             boost::spirit::qi::unused_type,
00094             boost::spirit::qi::unused_type) const;
00095     };
00096
00098     struct storeStartRangeTime : public ParserSemanticAction {
00100         storeStartRangeTime (YieldRuleStruct&);
00102         void operator() (boost::spirit::qi::unused_type,
00103             boost::spirit::qi::unused_type,
00104             boost::spirit::qi::unused_type) const;
00105     };
00106
00108     struct storeEndRangeTime : public ParserSemanticAction {
00110         storeEndRangeTime (YieldRuleStruct&);
00112         void operator() (boost::spirit::qi::unused_type,
00113             boost::spirit::qi::unused_type,
00114             boost::spirit::qi::unused_type) const;
00115     };
00116
00118     struct storePOS : public ParserSemanticAction {
00120         storePOS (YieldRuleStruct&);
00122         void operator() (std::vector<char>,
00123             boost::spirit::qi::unused_type,
00124             boost::spirit::qi::unused_type) const;
00125     };
00126
00128     struct storeCabinCode : public ParserSemanticAction {
00130         storeCabinCode (YieldRuleStruct&);
00132         void operator() (char,
00133             boost::spirit::qi::unused_type,
00134             boost::spirit::qi::unused_type) const;
00135     };
00136
00138     struct storeChannel : public ParserSemanticAction {
00140         storeChannel (YieldRuleStruct&);
00142         void operator() (std::vector<char>,
00143             boost::spirit::qi::unused_type,
00144             boost::spirit::qi::unused_type) const;
00145     };
00146
00148     struct storeYield : public ParserSemanticAction {
00150         storeYield (YieldRuleStruct&);
00152         void operator() (double,
00153             boost::spirit::qi::unused_type,
00154             boost::spirit::qi::unused_type) const;
00155     };
00156
00158     struct storeAirlineCode : public ParserSemanticAction {
00160         storeAirlineCode (YieldRuleStruct&);
00162         void operator() (std::vector<char>,
00163             boost::spirit::qi::unused_type,
00164             boost::spirit::qi::unused_type) const;
00165     };
00166
00168     struct storeClass : public ParserSemanticAction {
00170         storeClass (YieldRuleStruct&);
00172         void operator() (std::vector<char>,
00173             boost::spirit::qi::unused_type,
00174             boost::spirit::qi::unused_type) const;
00175     };
00176
00178     struct doEndYield : public ParserSemanticAction {

```

```
00180         doEndYield (stdair::BomRoot&, YieldRuleStruct&);
00182     void operator() (boost::spirit::qi::unused_type,
00183                     boost::spirit::qi::unused_type,
00184                     boost::spirit::qi::unused_type) const;
00186     stdair::BomRoot& _bomRoot;
00187 };
00188
00189 }
00190
00191 //
00192 // Entry class for the file parser
00193 //
00194 //
00195
00202 class YieldFileParser : public stdair::CmdAbstract {
00203 public:
00205     YieldFileParser (stdair::BomRoot&,
00206                     const stdair::Filename_T& iYieldInputFilename);
00207
00209     void generateYieldStore ();
00210
00211 private:
00213     void init();
00214
00215 private:
00216
00217     // Attributes
00219     stdair::Filename_T _filename;
00220
00222     stdair::BomRoot& _bomRoot;
00223
00225     YieldRuleStruct _yieldRule;
00226 };
00227
00228 }
00229 #endif // __AIRRAC_CMD_YELDPARSERHELPER_HPP
```

## 25.29 airrac/command/YieldRuleGenerator.cpp File Reference

```
#include <cassert>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/AirportPair.hpp>
#include <stdair/bom/PosChannel.hpp>
#include <stdair/bom/DatePeriod.hpp>
#include <stdair/bom/TimePeriod.hpp>
#include <stdair/bom/YieldFeatures.hpp>
#include <stdair/bom/AirlineClassList.hpp>
#include <stdair/factory/FacBomManager.hpp>
#include <stdair/service/Logger.hpp>
#include <airrac/bom/YieldRuleStruct.hpp>
#include <airrac/command/YieldRuleGenerator.hpp>
```

### Namespaces

- namespace [AIRRAC](#)

## 25.30 YieldRuleGenerator.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/bom/BomManager.hpp>
00008 #include <stdair/bom/BomRoot.hpp>
00009 #include <stdair/bom/AirportPair.hpp>
00010 #include <stdair/bom/PosChannel.hpp>
00011 #include <stdair/bom/DatePeriod.hpp>
00012 #include <stdair/bom/TimePeriod.hpp>
00013 #include <stdair/bom/YieldFeatures.hpp>
00014 #include <stdair/bom/AirlineClassList.hpp>
00015 #include <stdair/factory/FacBomManager.hpp>
00016 #include <stdair/service/Logger.hpp>
00017 // AirRAC
00018 #include <airrac/bom/YieldRuleStruct.hpp>
00019 #include <airrac/command/YieldRuleGenerator.hpp>
00020
00021 namespace AIRRAC {
00022
00023 // //////////////////////////////////////
00024 void YieldRuleGenerator::
00025 createAirportPair (stdair::BomRoot& ioBomRoot,
00026                   const YieldRuleStruct& iYieldRuleStruct) {
00027
00028     // Set the airport-pair primary key.
00029     const stdair::AirportCode_T& lBoardPoint = iYieldRuleStruct.getOrigin ();
00030     const stdair::AirportCode_T& lOffPoint = iYieldRuleStruct.getDestination ();
00031     const stdair::AirportPairKey lAirportPairKey (lBoardPoint, lOffPoint);
00032
00033     // Check that the airport-pair object is not already existing. If an
00034     // airport-pair object with the same key has not already been created,
00035     // create it and link it to the ioBomRoot object.
00036     stdair::AirportPair* lAirportPair_ptr = stdair::BomManager::
00037         getObjectPtr<stdair::AirportPair> (ioBomRoot, lAirportPairKey.toString());
00038     if (lAirportPair_ptr == NULL) {
00039         lAirportPair_ptr = &stdair::FacBom<stdair::AirportPair>::
00040             instance().create (lAirportPairKey);
00041         stdair::FacBomManager::addToListAndMap (ioBomRoot, *lAirportPair_ptr);
00042         stdair::FacBomManager::linkWithParent (ioBomRoot, *lAirportPair_ptr);
00043     }
00044     // Sanity check.
00045     assert (lAirportPair_ptr != NULL);
00046
00047     stdair::AirportPair& lAirportPair = *lAirportPair_ptr;
00048     // Generate the date-period object corresponding to the given
00049     // yieldRule.
00050     createDateRange (lAirportPair, iYieldRuleStruct);
00051
00052 }
00053
00054 // //////////////////////////////////////
00055 void YieldRuleGenerator::
00056 createDateRange (stdair::AirportPair& iAirportPair,
00057                 const YieldRuleStruct& iYieldRuleStruct) {
00058
00059     // Create the yield date-period primary key.
00060     const stdair::Date_T& lDateRangeStart =
00061         iYieldRuleStruct.getDateRangeStart ();
00062     const stdair::Date_T& lDateRangeEnd =
00063         iYieldRuleStruct.getDateRangeEnd ();
00064     const stdair::DatePeriod_T lDatePeriod (lDateRangeStart, lDateRangeEnd);

```



```

00066     const stdair::DatePeriodKey lYieldDatePeriodKey (lDatePeriod);
00067
00068     // Check that the date-period object is not already existing.
00069     // If a date-period object with the same key has not already been
00070     // created, create it and link it to the airport-pair object.
00071     stdair::DatePeriod* lYieldDatePeriod_ptr = stdair::BomManager::
00072         getObjectPtr<stdair::DatePeriod> (iAirportPair,
00073             lYieldDatePeriodKey.toString());
00074     if (lYieldDatePeriod_ptr == NULL) {
00075         lYieldDatePeriod_ptr = &stdair::FacBom<stdair::DatePeriod>::
00076             instance().create (lYieldDatePeriodKey);
00077         stdair::FacBomManager::
00078             addToListAndMap (iAirportPair, *lYieldDatePeriod_ptr);
00079         stdair::FacBomManager::
00080             linkWithParent (iAirportPair, *lYieldDatePeriod_ptr);
00081     }
00082     // Sanity check.
00083     assert (lYieldDatePeriod_ptr != NULL);
00084
00085     stdair::DatePeriod& lDateRange = *lYieldDatePeriod_ptr;
00086     // Generate the point_of_sale-channel object corresponding to
00087     // the given yieldRule.
00088     createPOSChannel (lDateRange, iYieldRuleStruct);
00089
00090 }
00091
00092 // //////////////////////////////////////
00093 void YieldRuleGenerator::
00094 createPOSChannel (stdair::DatePeriod& iDatePeriod,
00095     const YieldRuleStruct& iYieldRuleStruct) {
00096
00097     // Create the point-of-sale-channel primary key.
00098     const stdair::CityCode_T& lPoS = iYieldRuleStruct.getPOS ();
00099     const stdair::ChannelLabel_T& lChannel = iYieldRuleStruct.getChannel ();
00100     const stdair::PosChannelKey lYieldPosChannelKey (lPoS, lChannel);
00101
00102     // Check that the point_of_sale-channel object is not already existing.
00103     // If a point_of_sale-channel object with the same key has not already
00104     // been created, create it and link it to the date-period object.
00105     stdair::PosChannel* lYieldPosChannel_ptr = stdair::BomManager::
00106         getObjectPtr<stdair::PosChannel> (iDatePeriod,
00107             lYieldPosChannelKey.toString());
00108     if (lYieldPosChannel_ptr == NULL) {
00109         lYieldPosChannel_ptr = &stdair::FacBom<stdair::PosChannel>::
00110             instance().create (lYieldPosChannelKey);
00111         stdair::FacBomManager::
00112             addToListAndMap (iDatePeriod, *lYieldPosChannel_ptr);
00113         stdair::FacBomManager::
00114             linkWithParent (iDatePeriod, *lYieldPosChannel_ptr);
00115     }
00116     // Sanity check.
00117     assert (lYieldPosChannel_ptr != NULL);
00118
00119     stdair::PosChannel& lPosChannel = *lYieldPosChannel_ptr;
00120     // Generate the time-period object corresponding to the given
00121     // yieldRule.
00122     createTimeRange (lPosChannel, iYieldRuleStruct);
00123
00124 }
00125
00126 // //////////////////////////////////////
00127 void YieldRuleGenerator::
00128 createTimeRange (stdair::PosChannel& iPosChannel,
00129     const YieldRuleStruct& iYieldRuleStruct) {
00130
00131     // Create the yield time-period primary key.
00132     const stdair::Time_T& lTimeRangeStart

```

```

00133     = iYieldRuleStruct.getTimeRangeStart ();
00134     const stdair::Time_T& lTimeRangeEnd
00135     = iYieldRuleStruct.getTimeRangeEnd ();
00136     const stdair::TimePeriodKey lYieldTimePeriodKey (lTimeRangeStart,
00137                                                         lTimeRangeEnd);
00138
00139     // Check that the time-period object is not already existing.
00140     // If a time-period object with the same key has not already been
00141     // created, create it and link it to the point_of_sale-channel object.
00142     stdair::TimePeriod* lYieldTimePeriod_ptr = stdair::BomManager::
00143         getObjectPtr<stdair::TimePeriod> (iPosChannel,
00144                                             lYieldTimePeriodKey.toString());
00145     if (lYieldTimePeriod_ptr == NULL) {
00146         lYieldTimePeriod_ptr = &stdair::FacBom<stdair::TimePeriod>::
00147             instance().create (lYieldTimePeriodKey);
00148         stdair::FacBomManager::
00149             addToListAndMap (iPosChannel, *lYieldTimePeriod_ptr);
00150         stdair::FacBomManager::
00151             linkWithParent (iPosChannel, *lYieldTimePeriod_ptr);
00152     }
00153     // Sanity check.
00154     assert (lYieldTimePeriod_ptr != NULL);
00155
00156     stdair::TimePeriod& lTimeRange = *lYieldTimePeriod_ptr;
00157     // Generate the yield-features object corresponding to the given
00158     // yieldRule.
00159     createYieldFeatures (lTimeRange, iYieldRuleStruct);
00160
00161 }
00162
00163 // //////////////////////////////////////
00164 void YieldRuleGenerator::
00165 createYieldFeatures (stdair::TimePeriod& iTimePeriod,
00166                     const YieldRuleStruct& iYieldRuleStruct) {
00167
00168     // Create the yield-features primary key.
00169     const stdair::TripType_T& lTripType = iYieldRuleStruct.getTripType ();
00170     stdair::CabinCode_T lCabinCode = iYieldRuleStruct.getCabinCode ();
00171     const stdair::YieldFeaturesKey lYieldFeaturesKey (lTripType, lCabinCode);
00172
00173     // Check that the yield features object is not already existing.
00174     // If a yield features object with the same key has not already been
00175     // created, create it and link it to the time-period object.
00176     stdair::YieldFeatures* lYieldFeatures_ptr = stdair::BomManager::
00177         getObjectPtr<stdair::YieldFeatures> (iTimePeriod,
00178                                             lYieldFeaturesKey.toString());
00179     if (lYieldFeatures_ptr == NULL) {
00180         lYieldFeatures_ptr = &stdair::FacBom<stdair::YieldFeatures>::
00181             instance().create(lYieldFeaturesKey);
00182         stdair::FacBomManager::
00183             addToListAndMap (iTimePeriod, *lYieldFeatures_ptr);
00184         stdair::FacBomManager::
00185             linkWithParent (iTimePeriod, *lYieldFeatures_ptr);
00186     }
00187     // Sanity check.
00188     assert (lYieldFeatures_ptr != NULL);
00189
00190     stdair::YieldFeatures& lYieldFeatures = *lYieldFeatures_ptr;
00191     // Generate the airline-class list object corresponding to the
00192     // given yieldRule
00193     createAirlineClassList (lYieldFeatures, iYieldRuleStruct);
00194
00195 }
00196
00197 // //////////////////////////////////////
00198 void YieldRuleGenerator::
00199 createAirlineClassList (stdair::YieldFeatures& iYieldFeatures,

```

```
00200             const YieldRuleStruct& iYieldRuleStruct) {
00201
00202     // Create the AirlineClassList primary key.
00203     const unsigned int lAirlineListSize =
00204         iYieldRuleStruct.getAirlineListSize();
00205     const unsigned int lClassCodeListSize =
00206         iYieldRuleStruct.getClassCodeListSize();
00207     assert (lAirlineListSize == lClassCodeListSize);
00208     const stdair::AirlineClassListKey
00209         lAirlineClassListKey (iYieldRuleStruct.getAirlineList() ,
00210                               iYieldRuleStruct.getClassCodeList());
00211     const stdair::Yield_T& lYield = iYieldRuleStruct.getYield ();
00212
00213     // Create the airline class list object and link it to the yieldures
00214     // object.
00215     stdair::AirlineClassList* lAirlineClassList_ptr =
00216         &stdair::FacBom<stdair::AirlineClassList>::instance().
00217         create(lAirlineClassListKey);
00218     lAirlineClassList_ptr->setYield (lYield);
00219     stdair::FacBomManager::addToListAndMap (iYieldFeatures,
00220                                              *lAirlineClassList_ptr);
00221     stdair::FacBomManager::linkWithParent (iYieldFeatures,
00222                                             *lAirlineClassList_ptr);
00223 }
00224
00225 }
00226
```

## 25.31 airrac/command/YieldRuleGenerator.hpp File Reference

```
#include <stdair/command/CmdAbstract.hpp>
#include <airrac/AIRRAC_Types.hpp>
```

### Classes

- class [AIRRAC::YieldRuleGenerator](#)

### Namespaces

- namespace [stdair](#)  
*Forward declarations.*
- namespace [AIRRAC](#)
- namespace [AIRRAC::YieldParserHelper](#)

## 25.32 YieldRuleGenerator.hpp

```

00001 #ifndef __AIRRAC_CMD_YELDRULEGENERATOR_HPP
00002 #define __AIRRAC_CMD_YELDRULEGENERATOR_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // StdAir
00008 #include <stdair/command/CmdAbstract.hpp>
00009 // AirRAC
00010 #include <airrac/AIRRAC_Types.hpp>
00011
00012 namespace stdair {
00013     class BomRoot;
00014     class YieldRule;
00015     class AirportPair;
00016     class DatePeriod;
00017     class PosChannel;
00018     class TimePeriod;
00019     class YieldFeatures;
00020     class AirlineClassList;
00021 }
00022
00023 namespace AIRRAC {
00024     // Forward declarations
00025     struct YieldRuleStruct;
00026     namespace YieldParserHelper {
00027         struct doEndYield;
00028     }
00029 }
00030
00031 class YieldRuleGenerator : public stdair::CmdAbstract {
00032     // Only the following class may use methods of YieldGenerator.
00033     // Indeed, as those methods build the BOM, it is not good to expose
00034     // them public.
00035     friend class YieldFileParser;
00036     friend struct YieldParserHelper::doEndYield;
00037     friend class YieldParser;
00038
00039 private:
00040     static void createAirportPair (stdair::BomRoot&,
00041                                     const YieldRuleStruct&);
00042
00043     static void createDateRange (stdair::AirportPair&,
00044                                     const YieldRuleStruct&);
00045
00046     static void createPOSChannel (stdair::DatePeriod&,
00047                                     const YieldRuleStruct&);
00048
00049     static void createTimeRange (stdair::PosChannel&,
00050                                     const YieldRuleStruct&);
00051
00052     static void createYieldFeatures (stdair::TimePeriod&,
00053                                     const YieldRuleStruct&);
00054
00055     static void createAirlineClassList (stdair::YieldFeatures&,
00056                                     const YieldRuleStruct&);
00057
00058 };
00059
00060 #endif // __AIRRAC_CMD_YELDRULEGENERATOR_HPP

```

## 25.33 airrac/factory/FacAirracsServiceContext.cpp File Reference

```
#include <cassert>
#include <stdair/service/FacSupervisor.hpp>
#include <airrac/factory/FacAirracsServiceContext.hpp>
#include <airrac/service/AIRRAC_ServiceContext.hpp>
```

### Namespaces

- namespace [AIRRAC](#)

## 25.34 FacAirracServiceContext.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/service/FacSupervisor.hpp>
00008 // AIRRAC Common
00009 #include <airrac/factory/FacAirracServiceContext.hpp>
00010 #include <airrac/service/AIRRAC_ServiceContext.hpp>
00011
00012 namespace AIRRAC {
00013
00014     FacAirracServiceContext* FacAirracServiceContext::_instance = NULL;
00015
00016     // //////////////////////////////////////
00017     FacAirracServiceContext::~FacAirracServiceContext() {
00018         _instance = NULL;
00019     }
00020
00021     // //////////////////////////////////////
00022     FacAirracServiceContext& FacAirracServiceContext::instance() {
00023
00024         if (_instance == NULL) {
00025             _instance = new FacAirracServiceContext();
00026             assert (_instance != NULL);
00027
00028             stdair::FacSupervisor::instance().registerServiceFactory (_instance);
00029         }
00030         return *_instance;
00031     }
00032
00033     // //////////////////////////////////////
00034     AIRRAC_ServiceContext& FacAirracServiceContext::create() {
00035         AIRRAC_ServiceContext* aServiceContext_ptr = NULL;
00036
00037         aServiceContext_ptr = new AIRRAC_ServiceContext();
00038         assert (aServiceContext_ptr != NULL);
00039
00040         // The new object is added to the Bom pool
00041         _pool.push_back (aServiceContext_ptr);
00042
00043         return *aServiceContext_ptr;
00044     }
00045
00046 }

```

## 25.35 airrac/factory/FacAirracServiceContext.hpp File Reference

```
#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/service/FacServiceAbstract.hpp>
```

### Classes

- class [AIRRAC::FacAirracServiceContext](#)  
*Factory for the service context.*

### Namespaces

- namespace [AIRRAC](#)



## 25.36 FacAirracServiceContext.hpp

```
00001 #ifndef __AIRRAC_FAC_FACAIRRACSERVICECONTEXT_HPP
00002 #define __AIRRAC_FAC_FACAIRRACSERVICECONTEXT_HPP
00003 // //////////////////////////////////////
00004 // Import section
00005 // //////////////////////////////////////
00006 // STL
00007 #include <string>
00008 // StdAir
00009 #include <stdair/stdair_basic_types.hpp>
00010 #include <stdair/service/FacServiceAbstract.hpp>
00011
00012 namespace AIRRAC {
00013
00014     class AIRRAC_ServiceContext;
00015
00016
00017
00021     class FacAirracServiceContext : public stdair::FacServiceAbstract {
00022     public:
00023
00030         static FacAirracServiceContext& instance();
00031
00038         ~FacAirracServiceContext();
00039
00047         AIRRAC_ServiceContext& create();
00048
00049
00050     protected:
00056         FacAirracServiceContext() {}
00057
00058
00059     private:
00063         static FacAirracServiceContext* _instance;
00064     };
00065
00066 }
00067 #endif // __AIRRAC_FAC_FACAIRRACSERVICECONTEXT_HPP
```

## 25.37 airrac/service/AIRRAC\_Service.cpp File Reference

```
#include <cassert>
#include <boost/make_shared.hpp>
#include <stdair/basic/BasChronometer.hpp>
#include <stdair/bom/BomDisplay.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/STDAIR_Service.hpp>
#include <airrac/basic/BasConst_AIRRAC_Service.hpp>
#include <airrac/factory/FacAirracServiceContext.hpp>
#include <airrac/command/YieldParser.hpp>
#include <airrac/command/YieldManager.hpp>
#include <airrac/service/AIRRAC_ServiceContext.hpp>
#include <airrac/AIRRAC_Service.hpp>
```

### Namespaces

- namespace [AIRRAC](#)

**25.38 AIRRAC\_Service.cpp**

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // Boost
00007 #include <boost/make_shared.hpp>
00008 // StdAir
00009 #include <stdair/basic/BasChronometer.hpp>
00010 #include <stdair/bom/BomDisplay.hpp>
00011 #include <stdair/service/Logger.hpp>
00012 #include <stdair/STDAIR_Service.hpp>
00013 // Airrac
00014 #include <airrac/basic/BasConst_AIRRAC_Service.hpp>
00015 #include <airrac/factory/FacAirracServiceContext.hpp>
00016 #include <airrac/command/YieldParser.hpp>
00017 #include <airrac/command/YieldManager.hpp>
00018 #include <airrac/service/AIRRAC_ServiceContext.hpp>
00019 #include <airrac/AIRRAC_Service.hpp>
00020
00021 namespace AIRRAC {
00022
00023     // //////////////////////////////////////
00024     AIRRAC_Service::AIRRAC_Service() : _airracServiceContext (NULL) {
00025         assert (false);
00026     }
00027
00028     // //////////////////////////////////////
00029     AIRRAC_Service::AIRRAC_Service (const AIRRAC_Service& iService) {
00030         assert (false);
00031     }
00032
00033     // //////////////////////////////////////
00034     AIRRAC_Service::AIRRAC_Service (const stdair::BasLogParams& iLogParams)
00035         : _airracServiceContext (NULL) {
00036
00037         // Initialise the STDAIR service handler
00038         stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00039             initStdAirService (iLogParams);
00040
00041         // Initialise the service context
00042         initServiceContext();
00043
00044         // Add the StdAir service context to the AIRRAC service context
00045         // \note AIRRAC owns the STDAIR service resources here.
00046         const bool ownStdairService = true;
00047         addStdAirService (lSTDAIR_Service_ptr, ownStdairService);
00048
00049         // Initialise the (remaining of the) context
00050         initAirracService();
00051     }
00052
00053     // //////////////////////////////////////
00054     AIRRAC_Service::AIRRAC_Service (const stdair::BasLogParams& iLogParams,
00055                                     const stdair::BasDBParams& iDBParams)
00056         : _airracServiceContext (NULL) {
00057
00058         // Initialise the STDAIR service handler
00059         stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00060             initStdAirService (iLogParams, iDBParams);
00061
00062         // Initialise the service context
00063         initServiceContext();
00064
00065         // Add the StdAir service context to the AIRRAC service context

```

```

00066     // \note AIRRAC owns the STDAIR service resources here.
00067     const bool ownStdairService = true;
00068     addStdAirService (lSTDAIR_Service_ptr, ownStdairService);
00069
00070     // Initialise the (remaining of the) context
00071     initAirracService();
00072 }
00073
00074 // //////////////////////////////////////
00075 AIRRAC_Service::
00076 AIRRAC_Service (stdair::STDAIR_ServicePtr_T ioSTDAIR_Service_ptr)
00077     : _airracServiceContext (NULL) {
00078
00079     // Initialise the service context
00080     initServiceContext();
00081
00082     // Store the STDAIR service object within the (AIRRAC) service context
00083     // \note Airrac does not own the STDAIR service resources here.
00084     const bool doesNotOwnStdairService = false;
00085     addStdAirService (ioSTDAIR_Service_ptr, doesNotOwnStdairService);
00086
00087     // Initialise the context
00088     initAirracService();
00089 }
00090
00091 // //////////////////////////////////////
00092 AIRRAC_Service::~AIRRAC_Service() {
00093     // Delete/Clean all the objects from memory
00094     finalise();
00095 }
00096
00097 // //////////////////////////////////////
00098 void AIRRAC_Service::finalise() {
00099     assert (_airracServiceContext != NULL);
00100     // Reset the (Boost.)Smart pointer pointing on the STDAIR_Service object.
00101     _airracServiceContext->reset();
00102 }
00103
00104 // //////////////////////////////////////
00105 void AIRRAC_Service::initServiceContext() {
00106     // Initialise the service context
00107     AIRRAC_ServiceContext& lAIRRAC_ServiceContext =
00108         FacAirracServiceContext::instance().create();
00109     _airracServiceContext = &lAIRRAC_ServiceContext;
00110 }
00111
00112 // //////////////////////////////////////
00113 stdair::STDAIR_ServicePtr_T AIRRAC_Service::
00114 initStdAirService (const stdair::BasLogParams& iLogParams,
00115                   const stdair::BasDBParams& iDBParams) {
00116
00117     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00118         boost::make_shared<stdair::STDAIR_Service> (iLogParams, iDBParams);
00119
00120     return lSTDAIR_Service_ptr;
00121 }
00122
00123 // //////////////////////////////////////
00124 stdair::STDAIR_ServicePtr_T AIRRAC_Service::
00125 initStdAirService (const stdair::BasLogParams& iLogParams) {
00126
00127     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00128         boost::make_shared<stdair::STDAIR_Service> (iLogParams);
00129
00130     return lSTDAIR_Service_ptr;
00131 }
00132
00133 // //////////////////////////////////////
00134 stdair::STDAIR_ServicePtr_T AIRRAC_Service::
00135 initStdAirService (const stdair::BasLogParams& iLogParams) {
00136
00137     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00138         boost::make_shared<stdair::STDAIR_Service> (iLogParams);
00139
00140     return lSTDAIR_Service_ptr;
00141 }
00142
00143 }

```

```

00147
00148 // //////////////////////////////////////
00149 void AIRRAC_Service::
00150 addStdAirService (stdair::STDAIR_ServicePtr_T ioSTDAIR_Service_ptr,
00151                  const bool iOwnStdairService) {
00152
00153     // Retrieve the Airrac service context
00154     assert (_airracServiceContext != NULL);
00155     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00156
00157     // Store the STDAIR service object within the (AIRRAC) service context
00158     lAIRRAC_ServiceContext.setSTDAIR_Service (ioSTDAIR_Service_ptr,
00159                                               iOwnStdairService);
00160 }
00161
00162 // //////////////////////////////////////
00163 void AIRRAC_Service::initAirracService() {
00164     // Do nothing at this stage. A sample BOM tree may be built by
00165     // calling the buildSampleBom() method
00166 }
00167
00168 // //////////////////////////////////////
00169 void AIRRAC_Service::
00170 parseAndLoad (const YieldFilePath& iYieldFilename) {
00171
00172     // Retrieve the AirRAC service context
00173     if (_airracServiceContext == NULL) {
00174         throw stdair::NonInitialisedServiceException ("The AirRAC service has not"
00175                                                       " been initialised");
00176     }
00177     assert (_airracServiceContext != NULL);
00178
00179     // Retrieve the AirRAC service context and whether it owns the Stdair
00180     // service
00181     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00182     const bool doesOwnStdairService =
00183         lAIRRAC_ServiceContext.getOwnStdairServiceFlag();
00184
00185     // Retrieve the StdAir service object from the (AirRAC) service context
00186     stdair::STDAIR_Service& lSTDAIR_Service =
00187         lAIRRAC_ServiceContext.getSTDAIR_Service();
00188
00189     // Retrieve the BOM root object.
00190     stdair::BomRoot& lPersistentBomRoot =
00191         lSTDAIR_Service.getPersistentBomRoot();
00192
00193     YieldParser::generateYieldStore (iYieldFilename, lPersistentBomRoot);
00194
00195     buildComplementaryLinks (lPersistentBomRoot);
00196
00197     if (doesOwnStdairService == true) {
00198         //
00199         clonePersistentBom ();
00200     }
00201 }
00202
00203 // //////////////////////////////////////
00204 void AIRRAC_Service::buildSampleBom() {
00205
00206     // Retrieve the AirRAC service context
00207     if (_airracServiceContext == NULL) {
00208         throw stdair::NonInitialisedServiceException ("The AirRAC service has not"
00209                                                       " been initialised");
00210     }
00211     assert (_airracServiceContext != NULL);
00212
00213     // Retrieve the AirRAC service context and whether it owns the Stdair

```

```

00233     // service
00234     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00235     const bool doesOwnStdairService =
00236         lAIRRAC_ServiceContext.getOwnStdairServiceFlag();
00237
00238     // Retrieve the StdAir service object from the (AirRAC) service context
00239     stdair::STDAIR_Service& lSTDAIR_Service =
00240         lAIRRAC_ServiceContext.getSTDAIR_Service();
00241
00242     // Retrieve the persistent BOM root object.
00243     stdair::BomRoot& lPersistentBomRoot =
00244         lSTDAIR_Service.getPersistentBomRoot();
00245
00250     if (doesOwnStdairService == true) {
00251         //
00252         lSTDAIR_Service.buildSampleBom();
00253     }
00254
00267     buildComplementaryLinks (lPersistentBomRoot);
00268
00273     if (doesOwnStdairService == true) {
00274         //
00275         clonePersistentBom ();
00276     }
00277 }
00278
00279 // ////////////////////////////////////////
00280 void AIRRAC_Service::clonePersistentBom () {
00281
00282     // Retrieve the AirRAC service context
00283     if (_airracServiceContext == NULL) {
00284         throw stdair::NonInitialisedServiceException ("The AirRAC service has not"
00285                                                         " been initialised");
00286     }
00287     assert (_airracServiceContext != NULL);
00288
00289     // Retrieve the AirRAC service context and whether it owns the Stdair
00290     // service
00291     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00292     const bool doesOwnStdairService =
00293         lAIRRAC_ServiceContext.getOwnStdairServiceFlag();
00294
00295     // Retrieve the StdAir service object from the (AirRAC) service context
00296     stdair::STDAIR_Service& lSTDAIR_Service =
00297         lAIRRAC_ServiceContext.getSTDAIR_Service();
00298
00303     if (doesOwnStdairService == true) {
00304         //
00305         lSTDAIR_Service.clonePersistentBom ();
00306     }
00307
00321     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00322     buildComplementaryLinks (lBomRoot);
00323 }
00324
00325 // ////////////////////////////////////////
00326 void AIRRAC_Service::buildComplementaryLinks (stdair::BomRoot& ioBomRoot) {
00327     // Currently, no more things to do by AirRAC at that stage.
00328 }
00329
00330 // ////////////////////////////////////////
00331 void AIRRAC_Service::
00332 buildSampleTravelSolutions(stdair::TravelSolutionList_T& ioTravelSolutionList){
00333
00334     // Retrieve the AIRRAC service context

```

```

00335     if (_airracServiceContext == NULL) {
00336         throw stdair::NonInitialisedServiceException ("The AirRAC service has not"
00337                                                     " been initialised");
00338     }
00339     assert (_airracServiceContext != NULL);
00340
00341     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00342
00343     // Retrieve the STDAIR service object from the (AirRAC) service context
00344     stdair::STDAIR_Service& lSTDAIR_Service =
00345         lAIRRAC_ServiceContext.getSTDAIR_Service();
00346
00347     // Delegate the BOM building to the dedicated service
00348     lSTDAIR_Service.buildSampleTravelSolutions (ioTravelSolutionList);
00349 }
00350
00351 // //////////////////////////////////////
00352 std::string AIRRAC_Service::csvDisplay() const {
00353
00354     // Retrieve the AIRRAC service context
00355     if (_airracServiceContext == NULL) {
00356         throw stdair::NonInitialisedServiceException ("The Airrac service "
00357                                                     "has not been initialised");
00358     }
00359     assert (_airracServiceContext != NULL);
00360
00361     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00362
00363     // Retrieve the STDAIR service object from the (Airrac) service context
00364     stdair::STDAIR_Service& lSTDAIR_Service =
00365         lAIRRAC_ServiceContext.getSTDAIR_Service();
00366
00367     // Get the root of the BOM tree, on which all of the other BOM objects
00368     // are attached
00369     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00370
00371     // Delegate the BOM display to the dedicated service
00372     std::ostream oCSVStr;
00373     stdair::BomDisplay::csvSimFQTairRACDisplay (oCSVStr, lBomRoot);
00374     return oCSVStr.str();
00375 }
00376
00377 // //////////////////////////////////////
00378 std::string AIRRAC_Service::
00380 csvDisplay (const stdair::TravelSolutionList_T& ioTravelSolutionList) const {
00381
00382     // Retrieve the AirRAC service context
00383     if (_airracServiceContext == NULL) {
00384         throw stdair::NonInitialisedServiceException ("The AirRAC service has not"
00385                                                     " been initialised");
00386     }
00387     assert (_airracServiceContext != NULL);
00388
00389     // Retrieve the AirRAC service context
00390     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00391
00392     // Retrieve the STDAIR service object from the (AirRAC) service context
00393     stdair::STDAIR_Service& lSTDAIR_Service =
00394         lAIRRAC_ServiceContext.getSTDAIR_Service();
00395
00396     // Delegate the BOM building to the dedicated service
00397     return lSTDAIR_Service.csvDisplay (ioTravelSolutionList);
00398 }
00399
00400 // //////////////////////////////////////
00401 void AIRRAC_Service::

```

```
00402 calculateYields (stdair::TravelSolutionList_T& ioTravelSolutionList) {
00403
00404     // Retrieve the Airrac service context
00405     if (_airracServiceContext == NULL) {
00406         throw stdair::NonInitialisedServiceException ("The AirRAC service has not"
00407                                                         " been initialised");
00408     }
00409     assert (_airracServiceContext != NULL);
00410     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00411
00412     // Retrieve the StdAir service context
00413     stdair::STDAIR_Service& lSTDAIR_Service =
00414         lAIRRAC_ServiceContext.getSTDAIR_Service();
00415
00416     // Get the root of the BOM tree, on which all of the other BOM objects
00417     // will be attached
00418     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00419
00420     // Delegate the booking to the dedicated command: set the yields
00421     // for each travel solution of the given list
00422     stdair::BasChronometer lYieldChronometer;
00423     lYieldChronometer.start();
00424     YieldManager::calculateYield (ioTravelSolutionList, lBomRoot);
00425     const double lYieldMeasure = lYieldChronometer.elapsed();
00426
00427     // DEBUG
00428     STDAIR_LOG_DEBUG ("Yield calculation: " << lYieldMeasure << " - "
00429                       << lAIRRAC_ServiceContext.display());
00430 }
00431
00432 // //////////////////////////////////////
00433 void AIRRAC_Service::updateYields (stdair::BomRoot& ioBomRoot) {
00434     // Retrieve the AirRAC service context
00435     assert (_airracServiceContext != NULL);
00436
00437     // Update the default yields to the booking classes.
00438     YieldManager::updateYields (ioBomRoot);
00439 }
00440 }
```



## 25.39 airrac/service/AIRRAC\_ServiceContext.cpp File Reference

```
#include <cassert>
#include <sstream>
#include <airrac/basic/BasConst_AIRRAC_Service.hpp>
#include <airrac/service/AIRRAC_ServiceContext.hpp>
```

### Namespaces

- namespace [AIRRAC](#)

## 25.40 AIRRAC\_ServiceContext.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Airrac
00008 #include <airrac/basic/BasConst_AIRRAC_Service.hpp>
00009 #include <airrac/service/AIRRAC_ServiceContext.hpp>
00010
00011 namespace AIRRAC {
00012
00013     // //////////////////////////////////////
00014     AIRRAC_ServiceContext::AIRRAC_ServiceContext() : _ownStdairService (false) {
00015     }
00016
00017     // //////////////////////////////////////
00018     AIRRAC_ServiceContext::AIRRAC_ServiceContext (const AIRRAC_ServiceContext&)
00019         : _ownStdairService (false) {
00020         assert (false);
00021     }
00022
00023     // //////////////////////////////////////
00024     AIRRAC_ServiceContext::~AIRRAC_ServiceContext () {
00025     }
00026
00027     // //////////////////////////////////////
00028     const std::string AIRRAC_ServiceContext::shortDisplay() const {
00029         std::ostringstream ostr;
00030         ostr << "AIRRAC_ServiceContext -- Owns StdAir service: "
00031             << _ownStdairService;
00032         return ostr.str();
00033     }
00034
00035     // //////////////////////////////////////
00036     const std::string AIRRAC_ServiceContext::display() const {
00037         std::ostringstream ostr;
00038         ostr << shortDisplay();
00039         return ostr.str();
00040     }
00041     // //////////////////////////////////////
00042     const std::string AIRRAC_ServiceContext::describe() const {
00043         return shortDisplay();
00044     }
00045
00046     // //////////////////////////////////////
00047     void AIRRAC_ServiceContext::reset() {
00048
00049         // The shared_ptr<>::reset() method drops the refcount by one.
00050         // If the count result is dropping to zero, the resource pointed to
00051         // by the shared_ptr<> will be freed.
00052
00053         // Reset the stdair shared pointer
00054         _stdairService.reset();
00055     }
00056
00057 }

```

## 25.41 airrac/service/AIRRAC\_ServiceContext.hpp File Reference

```
#include <string>
#include <stdair/stdair_service_types.hpp>
#include <stdair/service/ServiceAbstract.hpp>
#include <airrac/AIRRAC_Types.hpp>
```

### Classes

- class [AIRRAC::AIRRAC\\_ServiceContext](#)  
*Inner class holding the context for the [AIRRAC](#) Service object.*

### Namespaces

- namespace [stdair](#)  
*Forward declarations.*
- namespace [AIRRAC](#)

## 25.42 AIRRAC\_ServiceContext.hpp

```

00001 #ifndef __AIRRAC_SVC_AIRRACSERVICECONTEXT_HPP
00002 #define __AIRRAC_SVC_AIRRACSERVICECONTEXT_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_service_types.hpp>
00011 #include <stdair/service/ServiceAbstract.hpp>
00012 // Airrac
00013 #include <airrac/AIRRAC_Types.hpp>
00014
00015 namespace stdair {
00016     class STDAIR_Service;
00017 }
00018
00019 namespace AIRRAC {
00020
00021     class AIRRAC_ServiceContext : public stdair::ServiceAbstract {
00022     friend class AIRRAC_Service;
00023     friend class FacAirracServiceContext;
00024
00025     private:
00026         // ////////// Getters //////////
00027         stdair::STDAIR_ServicePtr_T getSTDAIR_ServicePtr() const {
00028             return _stdairService;
00029         }
00030
00031         stdair::STDAIR_Service& getSTDAIR_Service() const {
00032             assert (_stdairService != NULL);
00033             return *_stdairService;
00034         }
00035
00036         const bool getOwnStdairServiceFlag() const {
00037             return _ownStdairService;
00038         }
00039
00040     private:
00041         // ////////// Setters //////////
00042         void setSTDAIR_Service (stdair::STDAIR_ServicePtr_T ioSTDAIR_ServicePtr,
00043                                 const bool iOwnStdairService) {
00044             _stdairService = ioSTDAIR_ServicePtr;
00045             _ownStdairService = iOwnStdairService;
00046         }
00047
00048     private:
00049         // ////////// Display Methods //////////
00050         const std::string shortDisplay() const;
00051
00052         const std::string display() const;
00053
00054         const std::string describe() const;
00055
00056     private:
00057         // ////////// Construction / initialisation //////////
00058         AIRRAC_ServiceContext();
00059
00060         AIRRAC_ServiceContext (const AIRRAC_ServiceContext&);
00061
00062         ~AIRRAC_ServiceContext();

```

```
00105
00109     void reset();
00110
00111
00112     private:
00113         // ////////// Attributes //////////
00117         stdair::STDAIR_ServicePtr_T _stdairService;
00118
00122         bool _ownStdairService;
00123     };
00124
00125 }
00126 #endif // __AIRRAC_SVC_AIRRACSERVICECONTEXT_HPP
```

**25.43 doc/local/authors.doc File Reference**

**25.44 doc/local/codingrules.doc File Reference**

**25.45 doc/local/copyright.doc File Reference**

**25.46 doc/local/documentation.doc File Reference**

**25.47 doc/local/features.doc File Reference**

**25.48 doc/local/help\_wanted.doc File Reference**

**25.49 doc/local/howto\_release.doc File Reference**

**25.50 doc/local/index.doc File Reference**

**25.51 doc/local/installation.doc File Reference**

**25.52 doc/local/linking.doc File Reference**

**25.53 doc/local/test.doc File Reference**

**25.54 doc/local/users\_guide.doc File Reference**

**25.55 doc/local/verification.doc File Reference**

**25.56 doc/tutorial/tutorial.doc File Reference**

**25.57 test/airrac/YieldTestSuite.cpp File Reference**

**25.58 YieldTestSuite.cpp**

```

00001
00005 // //////////////////////////////////////
00006 // Import section
00007 // //////////////////////////////////////
00008 // STL
00009 #include <sstream>
00010 #include <fstream>
00011 #include <string>
00012 // Boost Unit Test Framework (UTF)
00013 #define BOOST_TEST_DYN_LINK
00014 #define BOOST_TEST_MAIN
00015 #define BOOST_TEST_MODULE YieldTestSuite
00016 #include <boost/test/unit_test.hpp>
00017 // StdAir
00018 #include <stdair/basic/BasLogParams.hpp>
00019 #include <stdair/basic/BasDBParams.hpp>
00020 #include <stdair/basic/BasFileMgr.hpp>
00021 #include <stdair/bom/TravelSolutionStruct.hpp>
00022 #include <stdair/service/Logger.hpp>
00023 // Airrac
00024 #include <airrac/AIRAC_Service.hpp>
00025 #include <airrac/config/airrac-paths.hpp>
00026
00027 namespace boost_utf = boost::unit_test;
00028
00029 // (Boost) Unit Test XML Report
00030 std::ofstream utfReportStream ("YieldTestSuite_utfresults.xml");
00031
00032 struct UnitTestConfig {
00033     UnitTestConfig() {
00034         boost_utf::unit_test_log.set_stream (utfReportStream);
00035         boost_utf::unit_test_log.set_format (boost_utf::XML);
00036         boost_utf::unit_test_log.set_threshold_level (boost_utf::log_test_units);
00037         //boost_utf::unit_test_log.set_threshold_level (boost_utf::log_successful_tes
00038     ts);
00039     }
00040
00041     ~UnitTestConfig() {
00042     }
00043 };
00044
00045 // //////////////////////////////////////
00046 void testYieldQuoterHelper (const unsigned short iTestFlag,
00047                             const stdair::Filename_T iYieldInputFilename,
00048                             const bool isBuiltin) {
00049
00050     // Output log File
00051     std::ostringstream oStr;
00052     oStr << "FQTTTestSuite_" << iTestFlag << ".log";
00053     const stdair::Filename_T lLogFilename (oStr.str());
00054
00055     // Set the log parameters
00056     std::ofstream logOutputFile;
00057     // Open and clean the log outputfile
00058     logOutputFile.open (lLogFilename.c_str());
00059     logOutputFile.clear();
00060
00061     // Initialise the AirRAC service object
00062     const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
00063                                             logOutputFile);
00064
00065     // Initialise the AirRAC service object
00066     AIRRAC::AIRRAC_Service airracService (lLogParams);
00067
00068

```

```

00076 // Build a sample list of travel solutions
00077 stdair::TravelSolutionList_T lTravelSolutionList;
00078 airracService.buildSampleTravelSolutions (lTravelSolutionList);
00079
00080 // Check whether or not a (CSV) input file should be read
00081 if (isBuiltin == true) {
00082
00083     // Build the default sample BOM tree (filled with yields) for AirRAC
00084     airracService.buildSampleBom();
00085
00086 } else {
00087
00088     // Build the BOM tree from parsing the yield input file
00089     AIRRAC::YieldFilePath lYieldFilePath (iYieldInputFilename);
00090     airracService.parseAndLoad (lYieldFilePath);
00091 }
00092
00093 // Calculate the yields for the given travel solution
00094 airracService.calculateYields (lTravelSolutionList);
00095
00096 // Close the log file
00097 logOutputFile.close();
00098
00099 }
00100
00101
00102 // ////////////////////////////////// Main: Unit Test Suite //////////////////////////////////
00103
00104 // Set the UTF configuration (re-direct the output to a specific file)
00105 BOOST_GLOBAL_FIXTURE (UnitTestFixture);
00106
00107 // Start the test suite
00108 BOOST_AUTO_TEST_SUITE (master_test_suite)
00109
00110
00111 BOOST_AUTO_TEST_CASE (airrac_simple_yield) {
00112
00113     // Input file name
00114     const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR "/yieldstore01.csv");
00115
00116     // State whether the BOM tree should be built-in or parsed from an input file
00117     const bool isBuiltin = false;
00118
00119     // Try to yieldQuote the sample default list of travel solutions
00120     BOOST_CHECK_NO_THROW (testYieldQuoterHelper (0, lYieldInputFilename, isBuiltin)
00121 );
00122
00123 }
00124
00125
00126 BOOST_AUTO_TEST_CASE (airrac_error_parsing_input_file) {
00127
00128     // Input file name
00129     const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR "/yieldstoreError01.csv");
00130
00131     // State whether the BOM tree should be built-in or parsed from an input file
00132     const bool isBuiltin = false;
00133
00134     // Try to yield quote the sample default list of travel solutions
00135     BOOST_CHECK_THROW (testYieldQuoterHelper (1, lYieldInputFilename, isBuiltin),
00136         AIRRAC::YieldFileParsingFailedException);
00137 }
00138
00139
00140 BOOST_AUTO_TEST_CASE (airrac_error_missing_input_file) {
00141
00142     // Input file name

```



```
00150     const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR "/missingFile.c
sv");
00151
00152     // State whether the BOM tree should be built-in or parsed from an input file
00153     const bool isBuiltin = false;
00154
00155     // Try to yield quote the sample default list of travel solutions
00156     BOOST_CHECK_THROW (testYieldQuoterHelper (2, lYieldInputFilename, isBuiltin),
00157                       AIRRAC::YieldInputFileNotFoundException);
00158 }
00159
00163 BOOST_AUTO_TEST_CASE (airrac_simple_yield_built_in) {
00164
00165     // State whether the BOM tree should be built-in or parsed from an input file
00166     const bool isBuiltin = true;
00167
00168     // Try to yield quote the sample default list of travel solutions
00169     BOOST_CHECK_NO_THROW (testYieldQuoterHelper (3, " ", isBuiltin));
00170
00171 }
00172
00173 // End the test suite
00174 BOOST_AUTO_TEST_SUITE_END()
00175
00176
```

## 25.59 test/airrac/YieldTestSuite.hpp File Reference

```
#include <iosfwd>
```

```
#include <cppunit/extensions/HelperMacros.h>
```

### Classes

- class [YieldTestSuite](#)

### Functions

- [CPPUNIT\\_TEST\\_SUITE\\_REGISTRATION](#) ([YieldTestSuite](#))

#### 25.59.1 Function Documentation

##### 25.59.1.1 CPPUNIT\_TEST\_SUITE\_REGISTRATION ([YieldTestSuite](#))

## 25.60 YieldTestSuite.hpp

```
00001 // STL
00002 #include <iosfwd>
00003 // CPPUNIT
00004 #include <cppunit/extensions/HelperMacros.h>
00005
00007 class YieldTestSuite : public CppUnit::TestFixture {
00008     CPPUNIT_TEST_SUITE (YieldTestSuite);
00009     CPPUNIT_TEST (simpleYield);
00010     // CPPUNIT_TEST (errorCase);
00011     CPPUNIT_TEST_SUITE_END ();
00012 public:
00013
00015     void simpleYield();
00016
00018     // void errorCase ();
00019
00021     YieldTestSuite ();
00022
00023 private:
00025     void simpleYieldHelper();
00026
00027 protected:
00028     std::stringstream _describeKey;
00029 };
00030
00031 CPPUNIT_TEST_SUITE_REGISTRATION (YieldTestSuite);
```